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<110> Rahme, Laurence
He, Jianxin
Baldini, Regina
Solsbacher, Jens
Wagner, Peter

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Proteins and Uses Thereof

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| tacgaggata | gggagggctg | gacggggtcc | agatcgatga | ggagggttct | tatgcctgca | 84600 |
| tcggcgcaaa | atgcaccgag | gttggcgcg | gtggtggatt | ttcctacacc | acccttgggtg | 84660 |
| gatacaaccg | aagtcgcttt | cgattcatg | tctacagcct | ctaagtggg | gtcattagag | 84720 |
| gctgctaaac | agactcgttg | taacgggagt | ggaaaccctt | cctagagaaa | cctacgacca | 84780 |
| gttgtctttt | aaccaattgg | tcgtaggttc | gaatcctaca | cgaccaccca | | 84830 |

<210> 3

<211> 1506

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 3

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| gtggcgctga | ccggtaatcc | cctcctgaaa | ttgctggtcg | tccccgtcgt | gatcgggcgc | 60 |
| atcctgatcg | gcgtgagcat | gatgggcaag | aaagaaagt | cgagtcaca | aggcgccgca | 120 |
| accccgacgg | taacgtcgga | agaagcggca | accctgggca | tcgacggcga | cacgcccgc | 180 |
| gacacactac | gcaccatcgt | ggcgaaagc | cggcagctca | aggaccagat | cagcaagggtg | 240 |
| atccaggaga | atgactcgct | caaagccgcc | aatgagaacc | tcgagggccg | cctgcgcaac | 300 |

| | | | | | | |
|-------------|-------------|------------|-------------|------------|-------------|------|
| atcgatcaga | acatcgagca | gaagctcaac | aacaccgccc | aggaactgca | gcaacagcag | 360 |
| gaaaaccgta | gccagacgat | cctggaccag | gtacagaaac | ggctcgagaa | cctaaccac | 420 |
| attcccagag | ccggtgacac | cgacctgccc | gtaggattcg | gcgtgcgacc | aaaggatggc | 480 |
| cagcactttc | aggagcggg | ctcgtcttca | tcgatatatcg | tctggatcga | gccccaggac | 540 |
| gcccgcgcg | ttgatgccaa | tggccagccg | ctggccgccc | gctccaccac | ccaaccgagc | 600 |
| ggattcagct | tcccagacctc | cttcggcaat | gcggtcgatc | gcggacagaa | cgcgctggag | 660 |
| cggatcgatg | acgggctgca | ccccgtcggc | caacagcgat | ctgacctgga | aaaccgcaag | 720 |
| ctcgtccgta | agacctacac | gctgccgcag | aactcgacgc | tcatgggctc | ggtggccatg | 780 |
| tttgcgctga | tcggtcgtgt | gccggtcgac | gggacggtca | atgatcctta | cccgttcaaa | 840 |
| atcctcatcg | gcccggacaa | cctcaccgcc | aacggcatcg | agctgccgga | cgtcgccggc | 900 |
| gcggtagcca | gcgggaccgc | ctcgggcgac | tggacactct | cctgcgtgcg | tgggcagatc | 960 |
| cgcagcctca | cgttcgtgtt | caacgacggg | accgtgcgca | ccttcccggc | gccggccgag | 1020 |
| gaggtgaatg | acaaccagag | caacaacaac | cagaccgcca | gcgccgacca | gaaaaccatc | 1080 |
| cagggcggcc | tcggtcggt | cagcgacccc | tacggcatcc | catgcatcgc | cggtgatcgc | 1140 |
| cgatccaatg | ccaaggagta | cctgggcaat | cagagcctac | tacaggctgc | cggggcccggc | 1200 |
| attgccaaagc | tcctggacgc | cgacgagaac | aacaccagta | ccgtcttcag | cggaacggc | 1260 |
| accagcttcg | ggacgaccgg | aaccaacagc | aactcggccc | tcaacagcat | cctctccggc | 1320 |
| ggcgtcagcg | acatccggca | gtggatgaac | aagttgtacg | gggaggcctt | cgccgcgctc | 1380 |
| tacgtgcagc | caggtgcgcg | ggtcgcagtg | catctcgatc | agcaactggc | gatcgactat | 1440 |
| gaactcaagg | gccgcaaggt | cgattacagc | tctggagccg | ctcatgcaac | agcagacttg | 1500 |
| gactaa | | | | | | 1506 |

<210> 4

<211> 885

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 4

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| atgatccgga | agtcgacagg | ctcgtctcttg | ctaattgcttg | ccctaccac | actggccac | 60 |
| gcggtggaga | ttctgcgctg | ggagcgcatt | ccgttggcca | ttccattgac | ggtcggccag | 120 |
| gaacgcattg | ttttcgtcga | cagaaacgtg | cgagttgggg | ttcctcggga | tctgcagggc | 180 |
| aagctgcgcg | tccagagtac | cggcggcgca | ctctacctgc | tcgccaacga | gccgattcct | 240 |
| ccagcgcgcc | tgcgectaca | ggacgcgacc | aatggcgagc | agatgctcat | cgatatcgcc | 300 |
| gccaccgaag | caacggccga | ccaacagccg | cgcgagccgg | tcaggatcgt | cgccggcgag | 360 |
| ccagtggatc | cgcattatgg | ccagtcccgg | gaagcccagc | catcggcagc | agcgaacacg | 420 |
| accgagcacg | cagaagcacc | gaaggccgtg | ccgcgcgaaa | cgcccgtccc | cgtggttctg | 480 |
| acgcgctatg | cggcgcagat | gctctatgcc | ccgcttcgca | cggtggaacc | ggtggatggc | 540 |
| gtcggtcagg | tgcgctcaa | gcgacagctc | gacctgacca | ccctgctccc | cagcctaccc | 600 |
| atcacggcta | ccgccttggg | cgcctggcgg | ctggacgact | actacatcac | ggcggtgaa | 660 |
| ctgcagaacg | ccagcgcccc | gcacctggcc | ctggatccca | gggacctgat | gggcaatttc | 720 |
| gtcgcgcgca | ccttcagca | cccgtacttg | gggccccggg | gcgacgcctc | cgacaccact | 780 |
| accgtgtatc | tggtgacgcg | cggccgcggc | cttgccgacg | cgctcctgcc | ctcctccatc | 840 |
| agccagatcg | atcccaaagg | aggccgtcgt | ggcgtgacc | ggtaa | | 885 |

<210> 5

<211> 660

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 5

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| atgagtttca | gaaaacacac | tgcgcaacag | caggcacaca | tcaacacctt | ccggttcatc | 60 |
| accggcttcc | tgtgcatggt | catcgttgtg | ctggcctact | gcgtctggga | agcccgtaa | 120 |
| gacctctgga | tccacattcc | gcccgacttg | cgctcaggaa | gcacccggtt | gtgggtgggac | 180 |
| attccgccag | agagcgtcta | tgcgttcggc | ctctacatct | tccagcaggt | gcagcgttgg | 240 |
| cccaaggacg | gcgaggtgga | ctacaaggga | aacctgttcc | gctacgctgc | ctacctcact | 300 |
| ccctcctgca | aagtcttcct | ggagaaagac | tttgagtttc | gtcgtaacgc | cggcgagctc | 360 |
| aggggtcgcg | agcgcaccac | ctcggaatc | cccgttcgag | gcattggcga | gagcaatggc | 420 |
| cgcgtgatcc | agcactcgat | caatgactgg | accgtcaact | tggacatgga | cagcacggag | 480 |
| tattacgccg | gcgagaagat | caagcgggcg | ctggcccgtc | acccgttgca | cgttatccgc | 540 |

gccgacgtcg acccggaac caatcccttc ggctgcagt gggactgcta ctccgacacg 600
cctcaacgta tcgagcttga ggagccggcc gccccacca agcgggaggg aggtctatga 660

<210> 6
<211> 387
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 6
atgccgaag aacatctgtt tcaggatgga accctcagct tcctgccgac ccgtttgaac 60
cggcaaccgg tagtcatcgg cggcctgacc gcagacgaaa tgtggatcac ggtcttcacc 120
agcggagcag ccgggttcgt tcttggcatc ccggctgcct tggtcgcagg taacgctgcc 180
tgcatccac tgggcgcgct gctggtcggc gccctcggcc taggtatcgg cagccgcgctc 240
ctgcccggga tgaagcgggg gcggcccgat acctggttct accgccaggt ggagatggcc 300
ctctcgtcgc gctttcccggt cttcggcaac cgtcgcctgg ttacgcgctc cggcgcctgg 360
accagtcgac gcacggagtc cccatga 387

<210> 7
<211> 357
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 7
atgctgaaac tcaccctcca gaaactgtcc gccctctgcc agagcctggc cgccatcact 60
ttggcgctcc ccggtatcgc cttggctgca ctcccaaacc ccgaggcacc tagccgtggg 120
gagggatcgg gcatcatgca aaccatccag aacttcggct atgacggagc gatgctcctc 180
gcgctgctca tctgcgcggc tgtctttctg ggggtcgctt ggcataccta cggcacctat 240
cacgccatcc atgacgggaa gaagaagtgg tcggatctcg gagcgggcgt agccgtaggt 300
gtcggcctgc tgatcttgat catttatctc gtcaccaaag ccaccgccat catgtaa 357

<210> 8
<211> 372
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 8
atgagcatga gcggagccca gacatcagcg ttccaggccg ccgctggctt tccccatcg 60
gccggcgagg gactgttcat tggagcagcg atgaccttcc ttctgctgtg gtccgcctgg 120
gcgatgtaca gcacctggcg cggctgggcc accaacaacc ttcgacagcg ccaccgggtg 180
cgcttcgcg atcccgatc ttggtcctcc tcggcatcac ctctttcttc ctctcagct 240
gacccatag gagacactca tgctgaaact caccctccag aaactgtccg ccctctgcca 300
gagcctggcc gccatcatt tggcgctccc cggtatcgcc ttggctgcac tccccaaacc 360
cgaggcacct ag 372

<210> 9
<211> 360
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 9
ctgatctgca cgagattcgc cgtgaacact ccacatccat cccttcgccc aagctgcctg 60
gccgtcttgg cctgcagtgc gctggctgca caggagctt tcgcagcgag cgctcccgag 120
caggcgaacc tggaggtgat gatccggcag ctcaacgccc tcgaggacac cgcccgcgcg 180
agtgccaggg gcgccgatga gcccgacag cgcttctact tcgactacct gcgcctggcc 240
gctgacctgc agcgcacccg ccaaggcctg caggactaca tgacgccag ccgcgcccga 300
ccgcgtgacc cttccgactt atcagggaaat tacacctgc gcggaggggc gatgccatga 360

<210> 10
 <211> 306
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 10
 atgagcataa aacagccctt cgaataccat gtcgagaaca tcgtcattcc ctacaaaacc 60
 ctcaccaagg gcgtcgcgat gttcaaacac aaagaagaca ccttggaacc cgacgaccac 120
 gccttgctca accctctgcg ctgggcccag gtcgtgcgctc tgggccagga aggctgggag 180
 ctggtgagcg ttcagccact catgcggggc gtaaccgaga tcggtaatca aaacgccccaa 240
 ggctgggctt ggggcgtcgc tctgcccgtc agctacctgc tgtttttcaa gcgcgcaacc 300
 tcataa 306

<210> 11
 <211> 312
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 11
 atgcttagaa acatctctat tggagttttg ctagccatgg ctgctatggt gggcagttat 60
 ggggtggctg ccgctacatt acgatgcggg tcggcaattg ttagtgaggg cgacttgatt 120
 gatgatgtgc ttagaaagtgc cggcaaccct gatagccgta aaattgaagg gcccgagtg 180
 gatggtagtgc gctatatagt gcggggggct gctactgtcg aaaactgggt atatggacca 240
 aggaatgat ggtaccagaa gcttaggttt gtcgatggaa gactagttca gataaaaaggc 300
 agtatggact ag 312

<210> 12
 <211> 1158
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 12
 atgaaactta tccttgattt cgacggacgc cttctaaatc caagcaacat gctagaggcc 60
 ctatcaaaag caggaaaaaa tacaagcatc agcataagca acgcgcaagc attaaatata 120
 gaaactcttc tcaaggcaac aaccactgca gaaaacacaa aaaacctctc aacaactttc 180
 aacggcgcag agctgactgc taacaacctt cagcaagtca taaactcagc aggatcacta 240
 accagagtat ccacaatagc cgcacaagcc attaatataa acacacttct ttccgcaata 300
 tctacagcag gcaactcaaa gaatttttagc gcagaattca atggagccca actcagcagc 360
 gacaacctac ttagagcagt aaatgcggca ggaacaaaca ccagcataag cgtcaatacc 420
 gcacaagcgg caaatataac cgcccttctt caaactattc atgcagcagg tgacacaaaa 480
 acattcagcg cagagttcaa tggcgctcaa cttacttcaa acaacattca acaagcttta 540
 gacgcccagc gaaccgaac atccattagc gtcaataacc cacaggcggg taatataagc 600
 accctactag cctcatcaa ctctgccaaa gacacgaaaa agtttagcgc cgacttcaat 660
 ggtgcacaac taacagcaga caaccttcag caagcgatca gcgctgcggc ctcggttacc 720
 aatatcagcg tcaacaccgc tcaggcggcg aatatatcca cccttttaca ggccatcaac 780
 atcgcgggca aactaaaaa attcagcgcc aactttaatg gtgccaact cacttcaaac 840
 aacatccagc aggcgctccg agcgacagga tcaaacacat caatcagcat gaactccgca 900
 caatccgcca accaaagcac tctacttgaa cttctagaca tagcaagttc cagcaagcaa 960
 ttccaagcca attacaacgg tggcatgtct aatccgaaca acctacaaca gatagttttc 1020
 ccgtgcaggc gccagtacaa ccgtgtttat ttccgacgca caaggcctac caatcgcaaa 1080
 tacccttacc cttatatcat ctgcccggatg agacttatag ccgtggatga aaacacacca 1140
 tccacggcta taccctag 1158

<210> 13
 <211> 1482
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 13

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| gtgcagtgga | ctcacgaaca | gtcaccgata | atccagtcga | aggcaccgaa | gatacctggtg | 60 |
| cgagccttcg | caggcactgg | caaaactacc | accctggtgg | gctttgccag | gtcgaaccct | 120 |
| accctgagaa | tcctctatct | ctgctacaac | agctcggtgg | agaaagccgc | gaagggcaag | 180 |
| tttccccgca | acgtagtgtg | caagaccgcc | cacagtctgg | ctcatgcggt | gtacggcatt | 240 |
| cagtacgccc | acaagaagac | gaagaacctg | cgactgaccg | atatcgcccc | cggactcgat | 300 |
| acccaagact | gggagttggt | acgtgacgtg | ctggccaacgc | tgaacaacta | catggccagc | 360 |
| gccgacgcgg | aactcggccg | accgcacttc | ccgcgcttcc | gcgacaaggc | gttcctcacc | 420 |
| agtgtcagg | aacgcttcct | caagcagggc | ctggacatgg | cgcgagtagt | ctggaggcgc | 480 |
| atggtcgatc | tccaggacac | cggcatgctg | atgccccctg | acggctacct | gaagctgtat | 540 |
| caactgagca | agccccgattt | gagccagcgc | ttcgactgca | tgctcctgga | cgaagggcag | 600 |
| gacatcaacc | cagtgatcgc | ggacattgcc | cattggcagc | gcatcagaat | ggctatcgtc | 660 |
| ggcgatcccc | atcagcagct | ctaccggttc | aggggcgcag | aagatgccct | gaacagcgac | 720 |
| tggatggccg | gcgccgagga | gcactacctg | acccagagct | ggcgattcgg | ccccgcgac | 780 |
| gcacacgtgg | ccaacatcat | cctctcctac | aagggcgaaa | cacggaaact | tcaaggactg | 840 |
| ggtccgcaga | cgctggtgaa | aaagtccctc | ccgccggacc | ttcctcaccg | cactttcatt | 900 |
| caccgcaccg | ttatcggcgt | catcgagaat | gccctgcagc | tggtccgcaa | tcacccggag | 960 |
| cccaaattcc | actgggtagg | cgttatcgac | agttactcgc | tgccgcgacct | ggaggatctg | 1020 |
| tacgcattca | gccgaggcct | gcgccaaaaac | gtccagaaca | agaaactgct | ccgtgactac | 1080 |
| cgcgactaca | cccagtacgt | ggagatcgcc | gagatcagcc | aggacggtga | gatgcttcgc | 1140 |
| tcgatcaaga | tcatatcgac | ctaccctgat | ctgcctgcgc | ggatccttga | gcttcgctca | 1200 |
| ctgacccttg | acgatgagct | ggacgcaaca | atcacccctga | ccaccgcaca | caaggccaag | 1260 |
| gggctggaat | gggatttcgt | ttgcctgtac | gacgacttca | acgcggaccc | gctggccccc | 1320 |
| gacaccgacc | caggcaagcg | cgacgatgag | ttgaacctga | tctacgtcgc | agtgacccgc | 1380 |
| gcgatgaaga | tccttgccat | caacagcctg | gtgctgtcga | tcatgcagcg | gtacgtggac | 1440 |
| gacagaaaac | tgaaggagca | gatagctagc | tgtaaaaaat | ga | | 1482 |

<210> 14

<211> 651

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 14

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgttcgggt | cgctgatcgg | cgcaatcatc | gtggagtggt | tatgcctgta | tttcttctg | 60 |
| cctgacgcgg | gctggaagca | tgcccaggcc | atgtttgagt | acgaactcag | ttggctgtcg | 120 |
| caggggctgc | tacacagcgt | cgctgtgcag | gagccaggtc | gaaccgccac | ctggctggcc | 180 |
| cagttggcct | atgactggtt | gttcgtgaag | accgggatgg | tcgactggat | gaccaacatg | 240 |
| actaccatcg | cgcaggcccc | gccacggagc | ccgctggacg | ttcgctatct | caccgcccac | 300 |
| ggtgtctcca | cgctgcagaa | ctacggcctg | gccgcgctgt | acacggtgct | gacattcgtc | 360 |
| gtgcgcctgg | tgatcctggt | catgacgatc | ccgttattcg | tgatggccgc | gttcaccggc | 420 |
| ctggtggacg | gcctggtgcg | ccgggacctg | cgcaagtctg | gcgccggccg | ggagtccagc | 480 |
| tacctctacc | acaaggcgcg | cggcagcatc | attccgctag | cggtcgtccc | ttggacgctc | 540 |
| tacctggcaa | tccccatcag | catcaatccc | ctgctcatcc | tggtgcctcg | cgccgcgctg | 600 |
| ctcggcgtag | cggtatgcat | cacagcatcc | accttcaaaa | agtacctgta | g | 651 |

<210> 15

<211> 2796

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 15

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgaagttga | agaatttctt | acagcctttt | gatagcggtt | tctccactcc | gagtgtcgcg | 60 |
| ctcaagctgc | tccgcatgct | cgggtggcgc | ttgatgttgt | gcgtgctatg | cagcctgata | 120 |
| ttcagtgtga | gcatggtttt | aaaccatcag | gtgtccctca | gtcggcaagc | tatgaatgtg | 180 |
| gctatgtacg | aagcgcagct | ttatttcgag | cagcgcgagg | cggtgtctca | tcacttgagc | 240 |
| ggcaatgtcg | tgcccttggc | cgcgggtaga | gcgctcgtca | acgaagcgcc | gaacaatgtg | 300 |
| agcatcctgc | cgttgagtga | cggagggcga | ggtctgctat | tgaccgctcg | cacgctcggt | 360 |
| gatctccggg | aaaagcggct | ggcactgatg | tatctggtcg | ataccgacaa | aggccctctg | 420 |
| gtttaccggc | ttaccgccga | tggtaggccc | tcggcagcga | tatccagcac | gataaccaa | 480 |
| gaggtgtacc | gagccttgct | ggcgactccg | tcggcgctcg | ttcactgggt | gactgacggt | 540 |

| | | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|------|
| ggtacccctc | aacggctgta | cctttttgaa | tccttaggcg | atgagccggg | cgaggggtgg | 600 |
| ctaggcctgg | agattctcgg | cgaagacctc | gattcgatgt | tgcgccggaa | tgatgccgga | 660 |
| aactacatgc | tgctggatca | gcatgggcag | gtcgtactcg | ctacggacgc | agaggcgctg | 720 |
| gggagcggtg | cgtcgcggac | gcttttgcgt | ggagacggct | tcggtttcat | cggtgctggc | 780 |
| ccactgccgc | agcatatggt | gcttttccag | cacgtggggg | cttcgagctg | ggatctgatc | 840 |
| tatcacatcg | gtatcggtcg | cctgttgctg | gctctgtggc | tccctctgtt | acttgcctct | 900 |
| gcgttggcac | tcgcagtcgg | catcctactg | cattggctgg | tgcggagcat | cgagcgacgc | 960 |
| ttgatagagc | ccgcaaagcg | acgccttgaa | gcattgaagg | agagcgaagc | cttttcccgt | 1020 |
| gcagttatcc | aggccgcgcc | cgtcgcgctg | tgcgtgctgc | gtcgtgccga | cgccgcagtg | 1080 |
| gtcctggaaa | atccccaggc | gcgccaatgg | ctgggtgata | gcgaggcgat | tgccacgac | 1140 |
| gcgccgagat | ggatttccca | ggcgttcgca | ggaggtgtga | agtgttctgg | agaagaactg | 1200 |
| gaaaccgagg | cagggtctaca | tcttcatctc | aattacacgc | ccaccgcta | taacggtgaa | 1260 |
| gacgtattgt | tctgcgcctt | cagtgaatc | agtgcacgca | agcggatgga | ggcggaaactg | 1320 |
| gctcgcgcaa | aatccctggc | ggatgctgcc | aatgaagcca | agacgctgtt | tctcgccacc | 1380 |
| atgagccatg | aaatccgcac | acctctgtac | ggcatgcttg | gcacgcttga | gctgcttggg | 1440 |
| cgtaccgagc | tgagtcggca | gcaggccggt | tacctaaagg | caatccagca | ttcctcgtcg | 1500 |
| accctgtctg | aactgatcag | cgatgtgctt | gacgatcca | agatagaggc | cggccaactg | 1560 |
| gacctagagt | gcgtggaatt | ctcccgcgtg | gaattgaccg | aagaggctcg | gcagtcgttc | 1620 |
| accggtgccc | cgacggccaa | ggggctgcag | ttgtatacct | gcctctctgc | ggagctgccg | 1680 |
| ctgcgcacgc | ggggggccgc | ggcgctcgatc | cggcagattc | tcaacaacct | gctgagcaac | 1740 |
| gcggtgaagt | tcaccgacaa | tggctatgtc | aacgtccacc | tgaaggccag | cgtggtcgat | 1800 |
| gccgaatgtg | tgatgctgac | ctggcaggtc | aacgataccg | gcatggggat | caacgctcgag | 1860 |
| gatcagccgc | gtctgttcga | accgttctac | cagatacggc | gctccgagca | tccggtcgca | 1920 |
| ggcacggggc | tcggcttgtc | gatcagccag | cgcctggcgc | agctaataaa | tggcagctctg | 1980 |
| aaactggtca | gtgagctggg | gttgggcagc | agcttttagc | tcaggcttcc | gcttgagcgg | 2040 |
| atcctgagtc | aggctgagcc | gcaggaccta | gccgggtgcg | ccgtccaagt | gctggcgcc | 2100 |
| gtccgcgacc | taacgcgaatg | cctgtgtggc | tggatctccc | gctgggggtg | aagggccatg | 2160 |
| gtcgcgacgc | cgaggtcgct | ggacgaggcg | gacgcgacct | cgctgctggt | caaagtgtta | 2220 |
| ctgctggagg | gggcgccgat | gttcgaagca | tggccaggat | gccgggtgga | gctttcccct | 2280 |
| cagggtgata | tggagccgca | ggcacagggc | cgcgactggc | tgctcgggct | caacaacctg | 2340 |
| aacggcctgc | atcgtgctct | gggcctggcc | catgggcgtc | tcgctgatcc | ttcgacgccg | 2400 |
| ccgatacggc | tggctccgtt | gcgcaatcta | ggtctccgcg | tcctagtggg | ggaggataac | 2460 |
| gcgatcaacc | agttgatctt | gagggaccag | atggaagcgc | tgggctgcag | cgtggagctg | 2520 |
| ctcttcgatg | gtcgcgaggc | gttgctgcac | tgccagacgg | cctgcttcga | cgtggtgctc | 2580 |
| accgatatac | acatgccgaa | catgaacgga | tacgagctaa | ccgcggagct | acggcgccaa | 2640 |
| gggttccggc | agccgatcat | cggcgcgacg | gtgaacgcca | tgcgtgagga | gcgcgagcgc | 2700 |
| tgcattgtccg | ccgggatgaa | cgattgcctg | gtcaaaccgg | tggatctgaa | tgcccttcag | 2760 |
| aactgcttga | ttaatatctt | caagtggtgat | cgatga | | | 2796 |

<210> 16

<211> 1200

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 16

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| atgagctgga | aatcctatcg | ggtgctggtg | gtcgaagatc | agccgtttca | gcgcgaatac | 60 |
| ctgctcaacc | tgtttcgcga | gcgcggcgctg | cagtacctgg | taggtgccgg | cgacggcgcg | 120 |
| gaggcggttg | gctgctgaa | gcaggacagg | ttcgacctga | tcctcagcga | tctgatgatg | 180 |
| ccgggcatgg | atggtatcca | aatgatcctg | caactgccgt | atctcaagca | tcgtccgaag | 240 |
| ctggcgctga | tgagctcctc | gtcgcagcgg | atgatgtca | gtgccagccg | ggtcgcccag | 300 |
| agtctcggct | tgtcggtaat | cgacctgttg | cccaagccga | ctctgcccga | ggccatcggc | 360 |
| caacttctgg | aacacctgga | aagatgcctc | aggcagaagc | tggagccgga | aaccgacgag | 420 |
| actccgcatg | ggcgcacggc | gttgctggat | gccctgcata | acgagcaact | ggtgacctgg | 480 |
| ttccaggcta | agaaatccct | ccacaccggg | cgcatagtcg | gcgccgaggc | gttgatacgc | 540 |
| tggagccacc | cgcagcatgg | cctgttgctg | cccagctgtt | tcattagtgga | tgctcgacgct | 600 |
| accggtctgc | acgaggcggt | gctctggcgc | gtgctcgaac | agaccctgaa | cggccaggaa | 660 |
| tcgtggcgca | gggcgggtta | cgagattccg | gtttcggtga | atctgccgcc | gcacctgctc | 720 |
| gataaccagg | aacttccgga | tcgactctat | gagtacgtcg | gcgctcgcg | ggcttgatcc | 780 |
| agctcactat | gtttcgagtt | gaccgagagc | agtgtcacia | ctctgtcaag | taactactat | 840 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| gcaggtgcct | gtcgtttgct | catgaaaggg | ttcggattgg | cccaggacga | ctttggccag | 900 |
| ggttacagct | cgttctataa | cctggtcacg | acgcctttca | cggagctgaa | gatcgaccgc | 960 |
| tccctagtcc | agggatgcgt | agaggataac | ggcctcaatg | cagctgtcat | cagttgtatt | 1020 |
| gagttgggtc | accgcctgaa | tctcgacgtg | gtggccgaag | gcgtggagac | ctgcgaggaa | 1080 |
| ctgaatcttc | ttcgtcgtct | tggctgcgac | cgggcgagc | gtttcctgat | ttctaaggca | 1140 |
| gtgtctgctc | gtgagttcga | gcgcagttta | agggaggacg | gccccagcct | ccttgtttta | 1200 |

<210> 17

<211> 3255

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 17

| | | | | | | |
|-------------|------------|-------------|------------|-------------|------------|------|
| gtgaagtctg | ctagtgcctt | ggagcacgac | aacaaacttt | tgctcaaattg | gacaaccctc | 60 |
| tcgcagagcc | tgagcatcgg | cttgatctgt | gtggtggtgc | tgaccgtatt | gctgttcagc | 120 |
| atctgttact | ggtcgtctgg | gagattgttt | caggaggagg | aggacaaagt | ctccttccac | 180 |
| ttcacccgta | tgatggatgt | tatacgggag | catgaggtat | ttcttgggcg | catcgctcga | 240 |
| aaaagcgaca | agaccacca | gaagtacgac | tatgacgtgg | tgcttttgca | gcggcacttg | 300 |
| ttggcaaagg | aaaacggatt | agcgttctat | gagggacggg | agttttcctt | tgctatgcc | 360 |
| tttctactgg | ctaccaagca | cgctttgagc | gccgattcct | cgggagatcc | gttttcgctc | 420 |
| ggtgtattgc | tcgccaattt | ctacggaagc | ttctggagtg | ttccgccta | tcccgcgcca | 480 |
| cagttactga | tccttgatct | ttccgagcgc | acccgcctgg | cagtgcctgc | gattccctcc | 540 |
| acagcgcagc | gtgacaggtt | gagcgggaagc | tatccgatga | tagtcgagcg | cattctggcg | 600 |
| cgcttgcgca | cccggccggt | gggggaggac | gctcagcgtg | tccattggat | acgcgctgat | 660 |
| cgctatcgcg | actcggcgct | ggagatgttg | ggagtcgccc | gggttgatct | gccggaacaa | 720 |
| ctctggtggc | acgacgagcc | gaaccatctg | atcatcgctg | cgagcctgct | tgatctcagg | 780 |
| cgaatcaatg | acttcgaaca | gttggttgag | cgcccgcat | tcgattcgta | cagcctggta | 840 |
| tcgccggatg | gcgaggtatt | gctcggcgcg | gcccctgcga | ccggcctgag | ggatggcctg | 900 |
| aacctcacc | gacaggggtg | cgccgttcaa | ctgctcagcc | agcctgagaa | cggttggtc | 960 |
| gcggtctacc | gaaccgacta | cggcaatttc | tttcgccact | cccgggtggc | ggtggcaggt | 1020 |
| ctgctgctga | ccccggcgct | gctcctggcc | ggttggtcgc | ggatgcgttg | gtacaccagc | 1080 |
| agcgtcgtca | acccggtgca | tcgggcgcac | cggaactgg | tgagagcgca | caccttcagc | 1140 |
| cggacgtcta | tacagaccgc | gccggtggct | ctggtggtgc | tgaccagga | tgaccagcaa | 1200 |
| ctggtgacct | gcaaccactt | ggccgcccag | tggttgggcg | ggcccacgga | gatccttggg | 1260 |
| ctgacttcca | actggaagct | tttcgatgcg | cgtgggcagg | taccaggaga | catctgtatc | 1320 |
| caggtcgggtg | ggcgctatct | gcagaccgcc | ttcgcgcgca | cccgtatgc | cggcaccgag | 1380 |
| gcggtactgt | gcgtattcaa | cgacatcacg | gtccactgcg | aggcggagac | cgcgctgtcc | 1440 |
| aatgcgaagc | gagcagcgga | tgccgccagc | caggccaaga | ccctgttcct | ggcccgcatg | 1500 |
| agccatgaaa | tcggtactcc | cctgtacggt | gtccttgcca | ccctggagtt | gctcgacctg | 1560 |
| accaccctga | acgagcggca | acgcgcctac | ctacgcacca | tccagagttc | gtctgcgacg | 1620 |
| ctcatgcaac | tgattagcga | tgtgctggat | gtctcgaaga | tcgaagcggg | gcagatggct | 1680 |
| ctgaccctgg | cgccttcaa | tccgctggac | ctagtgcggg | aagtgccttg | caactttgcc | 1740 |
| gccagcgcca | tgcccaagga | cctgcagttc | tatgcctgca | tcgacaccga | agtgccggcg | 1800 |
| caactgatcg | gtgacgtgac | gcggattcgc | caggtgctca | ataacttggg | gaataacgcg | 1860 |
| ctgaagttca | ccgatatcgg | acgggtggtc | ctgcgcgtga | agttgctctc | ccgcaatgat | 1920 |
| ggtcgagccc | tggtgcagtg | gcaggtcgcc | gacaccggtg | tcggtatcgc | acacgaacag | 1980 |
| caggagcgct | tgttcgaggc | gttctaccag | gtttcgggag | cgcaccatgc | cggcggcagc | 2040 |
| gggctaggac | tgctgatctg | ctggcatctg | gcggaaatga | tgggcggtca | cctgcgaatg | 2100 |
| gtcagcgaga | cagggtctcg | cagcagcttc | agcctggtgc | tcgagttgcc | cgaggacgaa | 2160 |
| cagtcggggc | tggtctgccg | gccggggctc | ttgaaatccg | cttgctgcca | tgtgcgctcg | 2220 |
| cccgtgcggg | agctagccga | cagcgtaggg | gcgtggctga | aagcctgggg | ctgcaaggtc | 2280 |
| agcagcgggc | aggcggcgcc | ctccgagctg | gagacttggt | tgcttctgga | gctgctgccg | 2340 |
| atggcggccg | ggcctgcttc | ttcgccctgg | ccaggccccc | gggtgcgcgc | gtccatggat | 2400 |
| gcgccttgcc | agccggagct | gcgtgaggac | ggctggcggt | tcggcctgca | caacctggcg | 2460 |
| ggaatcgggc | aggccctggc | gcaggtctct | ggtggcgata | tccccgagca | aacgcccggc | 2520 |
| aatgcctgcg | cccgtctggg | gagactcgac | ctggaagtgc | tggtcgccga | ggacaaccca | 2580 |
| gtcaaccagg | cgctgcttcg | cgagcaactg | gaagagctgg | gttgctcgct | gagccttgcc | 2640 |
| ggcgatgggc | ggcaggccct | gcagctgttc | gacagtggtc | gcttcgacct | cctgctcagc | 2700 |

| | | | | | | |
|------------|-------------|-------------|-------------|------------|-------------|------|
| gacgtcaaca | tgccgaacat | gaccggctac | gaactgaccc | aggcgctgcg | cgaacgaggc | 2760 |
| gagacgctgc | cgatcatcgg | cgtgaccgcc | aacgccctgc | gagaagaggg | cgagcgctgc | 2820 |
| cgggcagtgg | gaatgaacag | ttggctgggtg | aagccgatca | ctctgcatac | cttgcattgaa | 2880 |
| ctgctcagtg | agttcgctcg | cgcagggtgtc | gtgcttcccg | cgcaagcgcg | agacctcggc | 2940 |
| ccgcccgcgc | agctcgacga | cggtctctca | ccgcagggtgc | cggaacgcat | gcgcgcgctt | 3000 |
| ttccttgaga | ccatgggcaa | ggacctggag | gccgcccggc | aagcgattcg | ccgcaacgac | 3060 |
| ccgaaggggc | tgcagcagga | cctgcatcgc | atggccgggt | ccctggcggt | gatgcgtgcg | 3120 |
| cgaacgctgg | tggatgatgtg | tcaggggcgcc | gaggaaggcc | tgctggagtc | gcgccttgaa | 3180 |
| tgttccgcgc | tggagattgg | cgagggtgctc | gttcatatcg | agcaggcgct | ggagtttgtg | 3240 |
| agaaagacgg | gctga | | | | | 3255 |

<210> 18

<211> 696

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 18

| | | | | | | |
|------------|------------|-------------|------------|------------|-------------|-----|
| atgcgtccgg | ggtcaatagt | tggaattaga | acacaagaga | agcctatgag | taagctcaag | 60 |
| atagtactgg | ccgatgacca | tccgatcggtg | cgtatgggcg | tatgcgacat | gctcgagcgc | 120 |
| gacggtcggg | tcgagggtgg | gggcgaggcc | tccacgcccc | gcgaactggg | cgagggtgtgc | 180 |
| cggcagagcg | agccgcatat | cgccattacc | gactacagca | tgcccgggga | cgagcgctac | 240 |
| ggcgatggac | tgaactgat | cgactacctg | ttgcgcaact | ttcctcgtag | taaggtgtct | 300 |
| atcttcacca | tggtcggcaa | ccgcctgatac | ctcgacagcc | tctacgatca | cggggtgtcc | 360 |
| ggcgtgggtg | tgaagagcgg | cgaactcgac | gagctgctct | tggcgctcga | cgtgggtgaag | 420 |
| cagaaccgcg | tctaccgggg | cgcgaaacatg | ctcgacccga | ccagtgttct | ggcgaaccgc | 480 |
| gacgaagtgg | aaagccgctt | cgcgcgcttg | tcgatgaagg | agttcgaagt | actccgtcac | 540 |
| ttcgtttccg | gcagcaacgt | ctgcatatc | gcacggctgc | tgaaacgtag | cgtcaagacc | 600 |
| gtaagcacgc | agaaggtctc | ggcgatgcgc | aagctggaag | tgaacagcga | ccaggccttg | 660 |
| atgaccttct | gcgtgcatgc | caacttgttc | cattga | | | 696 |

<210> 19

<211> 717

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 19

| | | | | | | |
|------------|------------|------------|-------------|-------------|-------------|-----|
| gtgtccagta | agatcctgct | gcaaggggca | ctgctcgggc | tagcaatgct | ggccgtgctg | 60 |
| gacgcccag | ccggagtcac | cgccgagcgc | actcgggcaa | taatcgccga | ggggcaccgc | 120 |
| gagacgtcgc | tgctgctggt | caaccagaat | gcctatccgg | tcatagtgc | gacctggatc | 180 |
| gacgatggcg | ccccgaactc | gacaccgcag | tctgcccgcg | cgccgatcat | gccgctaccg | 240 |
| ccggtgttcc | gcctcgaacc | cggacagcaa | cgagcctgc | gcctgctgcg | gaccggccag | 300 |
| gcgctgccag | gggaccgcga | atcgctgtac | tggttgaacc | tctacgaaat | cccgcgcgaa | 360 |
| gccaccgggc | tgctggccga | aggacagtca | cggctgaccg | ttactactgcg | caccagatg | 420 |
| aaagtcattc | accgccctcg | ccctctggcc | agagggtcgcg | aagaagcgcc | acaccagctc | 480 |
| aggttcgagc | ggcggggcga | aacactacag | atggagaacc | ctactcccta | tttcatcagc | 540 |
| ctgcgccggc | ccgagcttgg | cggccacacc | cgcttgccgcg | cgccggaact | gttgccccc | 600 |
| ttctccaggc | gcgtcctggc | gctccgccag | gcgctgcccg | gcggccaggc | cgagggtgcgc | 660 |
| ttcagctgga | tcgatgacgg | cggcaatctc | cagcagggac | ggagcctgct | tcactga | 717 |

<210> 20

<211> 1347

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 20

| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|-----|
| atgaaaacat | ccctgcgcgt | cctgcctctg | ctcctcgcg | tgctcgccctc | gtctagctgg | 60 |
| gcgacctgct | acaaggtcac | ggcggtaggc | aacgccacga | ctacctccaa | caccagata | 120 |
| cgtcccgggtg | aaggctctgc | cggcacctgg | gccggagcct | gcgatacctg | caacggttcc | 180 |
| ctcgggtctac | cgagcgtgat | caacgtcagc | gacgccagct | tccagcccga | cggtagcttg | 240 |

| | | | | | | |
|-------------|-------------|------------|------------|-------------|-------------|------|
| atcgccagct | cggtggcgcc | gtcagccaa | tacggcgaca | gcgcccggcta | cgacccagag | 300 |
| cgcggtgttct | tccgctgtgc | tccagaggac | gatgtgtacg | agatgttctc | caccaatgcc | 360 |
| gacgatctct | acagcggtcg | gtacctagga | ggcgacagtg | cgggcaactc | gattggcctg | 420 |
| cagtcgcct | atcgaccgc | ctggcccaac | gtgctgctgc | gcctaaccga | cgtggaaacc | 480 |
| gggcagtatt | tcaccgatgt | ctggcgcgag | cgtctgctcg | gcgggctcga | tatcgactcg | 540 |
| cgaggctttc | aactgggtcaa | ggcgaagaac | ctcagcgcg | tacgcgcga | actgttccgc | 600 |
| gctccgctgg | agttcatccg | ctactactcg | ccgactaccg | cctcgcggtt | gtacgcctac | 660 |
| accagccccg | ctggctacat | cgccatcaag | ggtcccggcc | tggcctaccc | caacgtcggc | 720 |
| gccagccata | acgccaaacta | cctcggtg | cactacaact | ggccggggcg | catcggcctg | 780 |
| tacaacgacg | tgacgtctcaa | gcgctatccc | acctgttccg | taaccaacgt | cacgccccac | 840 |
| gttgtgttcc | cgtcgatttc | cctcagttag | attaatgccg | gcgcgaaccg | tgagatgccc | 900 |
| ttcgaggtgg | ccttcaagt | ccaaacggga | gtgatcaaca | gcaccgcctc | cagcgggtact | 960 |
| gcactgggta | tcagggcttc | agccggggcg | caggccgcgt | ccgctgcact | gggcctgagg | 1020 |
| aacgccaatg | gcgggctctc | ctacctagt | tccgaccgct | acggccagcc | tggatatggc | 1080 |
| caaggcgtgg | gtatccgctt | gctgcgcgac | ggcagtgcga | tgaacctgct | ggtaagcgag | 1140 |
| gattccgcga | tgggcagcaa | tggcgaaaac | cggggctgg | atccagtgat | cggcaacgcc | 1200 |
| tcgaacaaga | ctggcgaagc | gggagggcat | agccagtaca | gcgagacctt | ccgtgcgcgc | 1260 |
| ctggaaaaac | tcaccgttgg | cagcatgccc | agcgttaccc | cgggacgggt | ggaggccagc | 1320 |
| gcgcaggtag | tgattcgtgt | ccagtaa | | | | 1347 |

<210> 21

<211> 2613

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 21

| | | | | | | |
|-------------|------------|-------------|-------------|-------------|-------------|------|
| atgtttctgcc | acgttgaggc | acggcgccacc | ggcaaaactgc | cgctggctct | ggggcgcccta | 60 |
| gcgctggcct | tcgcgggcct | ggccaatgga | gaggcgagc | atcgtttcga | cgacagcctg | 120 |
| ttgatgggct | cgggcctcgc | cgggcgggacc | ctagaacgct | tcaaccgggc | caaccagggtg | 180 |
| gaccccgga | cctaccatgt | cgatgtctat | ctcaacggca | gctacgccag | tcgcaccagg | 240 |
| atcgagttcc | gcccccgggc | cgggcgcgctc | aaacctgct | tcggcgaaacg | cttcttgccg | 300 |
| cggacgctgg | gcgtccgccc | cgctctgag | gccggcggtg | aagcgccctg | agattgcctg | 360 |
| gggctggaag | aacgcctgcc | aggctcgacc | ttcaatctcg | acaccgcctt | tctgcgcctc | 420 |
| gatctctcgg | tgccccaggc | cctgctggat | atcaagccac | gcggctacgt | gggtcccgc | 480 |
| gagtgggacg | ctggcagtag | catgggcttc | gtcaactacg | acgccagctt | ctatcgctcg | 540 |
| agcttcgacg | gagtaggcgg | caacggcgac | tcggactatg | gctacctggg | gctgagcggg | 600 |
| ggcatcaatt | tcggcctgtg | gcgcctgcgc | caccagtcca | actacagcta | ctccagctat | 660 |
| gcgggaaaca | cccgcagcga | ctggaacagc | atccgcacct | atgcccagcg | cgcggtgcca | 720 |
| ggcctgcgca | gcgaactgac | cctgggcgag | agcttcaccg | agggcaatct | gttcggcgac | 780 |
| ctgggttatc | gcggcgtgcg | cctggccagc | gacgaccgca | tgtctggcaga | ctcgcaacgc | 840 |
| cgctatgctc | cacaggtacg | cggtacagcg | aacagcaacg | cacgggtggt | catcagccag | 900 |
| aacggcaaga | aggtccacga | atccgcctgc | gtcccggctc | ccttcgtcat | caacgacctc | 960 |
| tatggcaccg | cctacgacgg | cgatctggat | gtccaagtga | ttgaggccga | cggcagcgctc | 1020 |
| tcgcgctttt | ccgtgccttt | ttccgcgggt | cccgaatcca | tgcgcccggg | catctcgcgc | 1080 |
| tacagcgcca | ccctcgccca | agcgcgccag | tatggcgacg | gcaacgacct | gttcggcgac | 1140 |
| ttcacctatc | agcgcgccct | gaccaactcg | ctaaccgcca | acctcggtc | gcgcctggcc | 1200 |
| gaggactatc | tggcgctgct | cgggcgaggc | gtgctcgcca | cgccctacgg | agccttcggc | 1260 |
| ttcaacagca | tcttttccca | tgccacggtg | gagaacggcc | agcgcaagca | gggctggcgt | 1320 |
| gtcggctctg | actacagccg | gaccttcag | ccgaccaga | ccactctcac | cctggctggc | 1380 |
| taccgctatt | ccaccgagg | ctatcgcgac | ctcggcgacg | cgctttcggc | gcgcccagcc | 1440 |
| gatgagcaca | agactcctg | gaactccagc | agctacaagc | aacgcaacca | gttcaccctg | 1500 |
| ctgggtcaacc | agggcctggg | gggctacggc | aaacctgtatc | tgtccggagc | caccagcgac | 1560 |
| tactacgacg | gcaagagccg | cgacacccag | ttgcagttcg | gctacagcaa | cacttggcgc | 1620 |
| cagctcagct | acaacctcgc | ctattcgcgc | cagcagacca | cctggtaccg | cgatctgaac | 1680 |
| gacgactacg | acccgtcact | gccgcccga | tacaacctgc | ggcacggcag | cgaacgtagc | 1740 |
| aacaccttaa | ccctgacact | ttccatgccg | ctggggtcct | ccagccaggc | cccgaatctc | 1800 |
| agcgcgatgg | cctcccggcg | ttccggcgac | agcccgggca | gcagctacca | gacgggcctc | 1860 |
| aacggcacc | tcgacgaaga | ccgcagcctg | agctacgcga | ttgccgccgg | gcgcgacagc | 1920 |
| gacaaccacg | gcagcgattt | caacggcag | ctgcagaaac | agacctcggt | ggcgacgctg | 1980 |

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|------|
| aacgccggct | atgccgagaa | cagcagctac | cggcagctca | acaccggcct | gcgcggcgcc | 2040 |
| gccgtgctgc | atcgcggcgg | cctgaccctc | ggcccctacg | tcggcgacac | tttcgccctg | 2100 |
| gtcagggcca | agggcgccag | cggagctggc | gtacgcggtg | gtcagggcgc | gcgcgtcaac | 2160 |
| ggcaatggct | acgccgtggt | gccatcactc | tcgccctacc | gctacaaccc | ggtcagcctc | 2220 |
| gatccgcagg | gcatgggcga | agaggccgag | ctgctggaga | ccgagcgcaa | gatcgcgcca | 2280 |
| tacgccggcg | ccgccgtgca | tgtgaagttc | cgcacactga | ccggtcaccc | attgctaata | 2340 |
| caggcccaac | tcgccgacgg | cagcgcgcta | ccgctagggg | ccaatgtgct | cgacagccag | 2400 |
| ggtgtgaaca | tcggcatggt | cgttcaaggc | ggccagggtc | atgcccgcgc | cgagggcgag | 2460 |
| aagggccgcg | tgcgctgca | atggagcgaa | cgcccagggg | acgcctgtct | gctggattac | 2520 |
| gacctcgaca | ctggccctcg | ccaggctatc | gaacccggac | aggcgggtgat | ccgcctgcag | 2580 |
| ggcacctgca | cgcccgtctc | ggaggcacca | tga | | | 2613 |

<210> 22

<211> 747

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 22

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|-----|
| atgaatactt | ttccactgcc | tccgctccgt | gcggtacgc | tggcgctcgc | cctgctgata | 60 |
| cccgccatcc | cggctcaaag | cagcgtgggtg | atcatcggtg | ctcgcgtgat | ttatcccggc | 120 |
| gacgcccggg | aaaagaccgt | gcagatgatc | aatcaggacg | cattcccca | cgtgatccaa | 180 |
| gcctggatcg | acaacgacga | cccctcctcc | accccgagga | ctgcaaacgc | gccctttctg | 240 |
| gtcagcccag | cggtagcgcg | catagccccc | ggcagcggcc | agaccctgcg | cctcctgtat | 300 |
| accgggctcc | cgctgcccga | ggatcgcgaa | tcgttgttcc | atctcaatgt | gctgcagatc | 360 |
| ccgccccgcg | acctggccaa | ggccgagcgc | aaccagatgc | tgctgatgca | gcgcagtcga | 420 |
| ctgaagctgt | tctatcgccc | cgccgcgctg | cttggcggct | cggagcagct | agtcgagcag | 480 |
| ttgcacttca | gcctgggtgca | ggcagcgccg | aactggcggtg | tgcggggtgga | caacccagc | 540 |
| ggctactacg | cctccttcgc | cggcgcgatg | ctgagcatcg | gcgaacgtcg | ctggcggtcg | 600 |
| ctgtcgagca | tggtcccgcg | caaaggccag | gccgagtggtg | cggcggaacg | cccttcgcgcg | 660 |
| ctcgccccag | gaccggtcca | gttgaacgcc | ctcttgatca | atgactacgg | cgcgcgaaatg | 720 |
| gaggtccagc | atgttctgcc | acgttga | | | | 747 |

<210> 23

<211> 549

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 23

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| atgaaacctc | aaagtactgc | cctgactatc | gccgcatttc | tcgcattgcc | gggtatcgcg | 60 |
| gcggtgcca | ataccatcac | cttccacgga | gaagtgaccg | accagacctg | ttccgcgcgtc | 120 |
| gtcgacggac | gaaccgaccc | gaccgtgata | ctcgacaccg | taccggtaag | cgctcttgac | 180 |
| ggcgagtcg | gcaaaccgcg | cggggaaacc | agcttcaccc | tgcaactgac | cggttgcgcg | 240 |
| gctccggcgg | ccgatgccga | ggagcacttc | agcgtgatgt | tccaggcggt | caatccgacc | 300 |
| agcgccggca | atctgaccaa | taccgcgtcc | gccggcgcca | ccggcgtagc | gctgcagcta | 360 |
| ctgacggcac | cgggcggcag | cgaggtcaat | ctggccggcg | ggtcggccgt | ggctgccggt | 420 |
| gacatcgtgc | tcgcaggagg | cgagaccagc | accagctacg | actatgccgt | ccgctacatc | 480 |
| tccgaagcga | ccaccgtcac | tccgggaccg | gtgctcggtc | cggtagaccta | caccctgcgt | 540 |
| tacgagtaa | | | | | | 549 |

<210> 24

<211> 266

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 24

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| agtccgcacg | gtagtgcga | ctggaagcgc | ttctgtgctg | ccaacaacct | ggagcccagc | 60 |
| atgagccggc | gcggcaattg | ttgggatatg | ccgtggcgga | atccttcttc | agtagtttga | 120 |
| agaaagagcg | tatccgcaaa | cgcattctaca | aaacccgaga | catggcccgg | gcggatgttt | 180 |
| ttgactacat | cgaggtcttc | tacacccgaa | cccggcgcca | cagtcattctg | ggtggcgctca | 240 |

gtccccgagggc ctttgaaagc gcctcg

266

<210> 25

<211> 747

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 25

| | | | | | | |
|------------|------------|-------------|------------|------------|-------------|-----|
| atggctgaag | tcactcaacg | agcagagcag | caacaagaga | gccagaagac | ccttctcggc | 60 |
| accatcatca | gtacgccctt | ccaattttctc | ggcgtgatgt | tcgggtcgct | gatcggcgca | 120 |
| atcatcgtgg | agtgggtttg | cctgtattttc | ttctggcctg | acgcgggctg | gaagcatgcc | 180 |
| caggccatgt | ttgagtacga | actcagtttg | ctgtgcgagg | ggctgctaca | cagcgctcgtc | 240 |
| gtgcaggagc | caggtcgaac | cgccacctgg | ctggcccagt | tggcctatga | ctggttgttc | 300 |
| gtgaagaccg | ggatggtcga | ctggatgacc | aacatgacta | ccatcgcgca | ggccgggcca | 360 |
| cggagcccgc | tggacgttcg | ctatctcacc | gcccagggtg | tctccacgct | gcagaactac | 420 |
| ggcctggccg | cgctgtacac | ggtgctgaca | ttcgtcgtgc | gcctggtgat | cctgggtcatg | 480 |
| acgatcccgt | tattcgtgat | ggccgcgttc | accggcctgg | tggacggcct | ggtgcgcccg | 540 |
| gacctgcgca | agttcggcgc | cggccgggag | tccagctacc | tctaccacaa | ggcgcgccgg | 600 |
| agcatcattc | cgctagcggg | cgtcccttgg | acgctctacc | tggcaattcc | catcaacatc | 660 |
| aatcccctgc | tcactcgtgt | gccctgcgcc | gcactgctcg | gcgtagcggg | gtgcatcaca | 720 |
| gcatccacct | tcaaaaagta | cctatag | | | | 747 |

<210> 26

<211> 2235

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 26

| | | | | | | |
|-------------|------------|-------------|------------|------------|-------------|------|
| atggctggcc | agtaccggtt | ggaagcgctc | ttgcggcctg | ccgtggagct | ctacaccacc | 60 |
| accgtgtgct | tcaccgcagc | cgcgctctgc | atcgctcgcg | cgtggacgtt | ctccctcact | 120 |
| ccgctgttcg | gcacgtgggc | cgcgctgtgc | ttcgccctgg | tgggtatcgt | gcggctgaag | 180 |
| caggccggcg | tgggtgtccg | ctaccggcgg | aacattcgcc | gactgccgaa | gtacacgatg | 240 |
| accagcgccg | agatgccggg | cagcaacgaa | cacctgttca | tcggtaaagg | atttcgctgg | 300 |
| acgcagaagc | atacgcacgc | cctggcagat | acctacctgc | cccagttcgc | ctcttacgtc | 360 |
| gagccctcgc | ccctctacga | gcgcgcgcgc | cggttggaga | agcagctcga | gttcgcccc | 420 |
| ttccccctga | agctggctgc | caaagccact | gcctgggacg | tggcctggaa | ccccgcacgg | 480 |
| ccgctgccgc | ccgtggggcg | tttgccctcg | ctccatggca | tcgagccgcg | cgaacaggac | 540 |
| gtaggcctgc | aactgggcga | gcgcgtcggc | cacacactgg | tactcggcac | cacgcgggtg | 600 |
| ggtaagacgc | gcctcgcgga | gctgttcac | acccaggata | ttcgccgcac | tcactgccgg | 660 |
| gtacgacgcc | ggcgggtgaa | gatgggccc | cggaccaga | cggttcacca | cggctatcgg | 720 |
| cgccggcgcg | cagaggagca | gccgactac | gaggtggtga | tcgtcttcga | cccgaaaggc | 780 |
| gacgtgacc | tgctgaagcg | tatgtacgtg | gaatgcgaac | gtgccggccg | cctggacgag | 840 |
| ttctacgtgt | tccacctcgg | tcactcctgac | gtgtcggcac | gctacaacgc | cgtcggcccg | 900 |
| ttcggtcggga | tctccgaggt | cgccaccgcg | gtcgccggcc | agctctccgg | cgagggcaac | 960 |
| agcgcgcgct | tccgcgagtt | cgctggcg | ttcgtaaca | tcactgccc | cgcgctgcac | 1020 |
| gcgctgggta | tccggcctga | ctaccagcag | atcctccggc | acgtcgtgaa | catcgatgcg | 1080 |
| ttgttcgtcg | aatatgcgca | gaaatacatc | agcgagcacg | atcccagggg | ctgggacacc | 1140 |
| atcatccaga | tcgagggcaa | gctcaacgac | aagaacatcc | cgttcaacat | gaaaggacgg | 1200 |
| ccctgcggg | tcgtagccat | cgaccagtac | ctgacacaga | aacgcacgc | cgaccgggtc | 1260 |
| atggaaggct | tgaagagcgc | cgtgcgctac | gacaagacct | acttcgacaa | gatcgtggcc | 1320 |
| tcgctgctgc | cgctactgga | gaaactcact | accgggcgga | tctcggagct | tctttcgccc | 1380 |
| aactacgcgg | acctcaacga | tccgcggccg | atcttcgact | ggatgcaggt | catccgcaaa | 1440 |
| cgcgccgtgg | tctacgtcgg | cctcgacgca | ctatcgata | ccgaggtcgc | cgccgcgggtg | 1500 |
| ggcaactcca | tgttcagcga | cctggtctcg | gtagcgggtc | acatctacaa | gcatggtgtc | 1560 |
| gatgacggcc | tgcccggctc | gctcgccagc | ggcaagggtc | gcatcaacct | gcatgccgac | 1620 |
| gagttcaacg | agctgatttg | cgacgagttc | atccccatgg | tcaacaaagc | gggcggcgcc | 1680 |
| ggcgtgcagg | tgacggccta | cacccagacc | atgagcgaca | tcgaggccaa | gatcggctcc | 1740 |
| cgcgcgaaag | ccggtcagat | catcggaac | ttcaacaacc | tggtcatgct | gcgggtgcgc | 1800 |
| gagaccgcca | cggccgaact | ccttaccat | cagctcccca | aggtccagat | ctacaccagg | 1860 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| acgccggcga | gcggcgccaa | cgacgcgatc | aacaacaaca | agaaggtagc | cttcacctcc | 1920 |
| agctcgcacg | accaggtgca | gatgaccagc | gtgccgatgc | tcgagccggc | ccacatcatt | 1980 |
| ggtctgcca | aaggacaagc | gttcgcgcta | ctcgagggcg | gcaatctctg | gaagatccga | 2040 |
| atgccgctgc | cggcggtcgc | ccccgacgag | gtgatgccga | aaagcctgca | ggagctggct | 2100 |
| gccggtatgc | gcaagggcca | ggccgccaac | agcgagtggc | gggagggcgc | gggatactcc | 2160 |
| gccctgcagg | atggtctgcc | ccaggacctg | gtcgacgatt | tccgtcacct | cggcaccggc | 2220 |
| gaggatgccg | cctga | | | | | 2235 |

<210> 27
 <211> 258
 <212> DNA
 <213> *Pseudomonas aeruginosa*

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 27 | | | | | | |
| atgactactc | atctgatcac | cctagtcatc | aagcagccga | gcgacgctca | ggcacgccaa | 60 |
| ctcatgtacc | aggagttgct | cggactgatc | tcacgctacg | gcggtgaggt | gacgtccaag | 120 |
| gccttgagg | acgagtcgac | cctctgcgag | ctgctgggtg | agatgctgcc | tgatcatgag | 180 |
| gtagagcaag | ccaggaaaca | ggtgctcgaa | cttcatgcca | agggccgcct | gcaggcgccg | 240 |
| gcaagcctga | aggtgtaa | | | | | 258 |

<210> 28
 <211> 501
 <212> DNA
 <213> *Pseudomonas aeruginosa*

| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|-----|
| <400> 28 | | | | | | |
| atgaagaagt | tccttgccac | gctggcattt | tgacggcgct | tcgcgactca | agcctggggc | 60 |
| gccgggctga | tcgttgctga | agacctcggc | ggcgccctcg | cgctccccta | ctaccagggc | 120 |
| ctggatccgc | agccatccgc | ttccgcacca | ggacctggcg | acctggggcg | ccgtgggtca | 180 |
| ggtgctttc | cagttcgctc | cgcccgcccta | tcgccaggac | gggtccaggg | gcgcgccatc | 240 |
| aacgctccag | gcctgcaact | gctgttcctg | gtcggcgacg | acacgctgtc | tcgaacctgg | 300 |
| ctgaaagagc | gaggcgacga | gcttcgagac | ctccaagccg | tgggcctggc | agtgaacgtg | 360 |
| gccagcgaag | cgcgccctgac | ggaaatccgg | gcctggggga | aaggacttca | gatattgccg | 420 |
| gcgcggcgcg | acgacctggt | cgaccggcta | gggtcgagc | attaccccg | cctcatcaca | 480 |
| tccaccgccca | tccagcagta | g | | | | 501 |

<210> 29
 <211> 582
 <212> DNA
 <213> *Pseudomonas aeruginosa*

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|-----|
| <400> 29 | | | | | | |
| atggcaacgt | ctgtagttcg | agccctccag | ttggccaccc | tgctggctcct | ggtcaacatc | 60 |
| gctcaggccg | ccgtggatcc | accgcccggc | tacaagcaaa | tcgccctgcc | caaaggggtt | 120 |
| ccggccgagg | tgctctactc | ggtcgcgctg | accgagagca | aggtcctgct | gcgcggcgaa | 180 |
| tacgttcctc | ggccctggac | attgaacgtc | gccgggaaat | cttactacta | cgcgacccgc | 240 |
| accgcccgc | gcacagcgct | actcgcggcg | atcaacctct | acggggccaa | gagcgctgat | 300 |
| tccggcctcg | gccaggtcaa | catcggctgg | aacggacatc | gtttctccag | cccctgcgag | 360 |
| tccctggatc | cgtacaagaa | cctggacgcc | acctccgaca | tcctgatcga | gcagcgggac | 420 |
| gccctgtatg | catccgcccc | gggaagaccg | gtggactgga | tccaagttgc | cggccgctac | 480 |
| caccgccccg | ccggcgcgcg | gcctgcggcc | aaataccgta | ggacggtttc | ccgccacctt | 540 |
| agccaagttc | tcggcgctcaa | cctactgggtg | accaatccat | ga | | 582 |

<210> 30
 <211> 756
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 30

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgatcagaa | ccgtatcgct | cctgtccggc | ctgatgctgc | tgctgagcta | tcccgcagcc | 60 |
| ggccaggagg | cgccggcaag | ccgagaggcc | agcagccaac | tgtccggtag | ccaactcggc | 120 |
| acgctgaaac | aacagacatc | tcagagcgac | ctggcccagg | agtggggact | gaaccaacag | 180 |
| gaatggaccc | gctaccagac | gctcatgcaa | ggcccccg | gcgcttactc | gcctggtatt | 240 |
| gatccgctga | ccgcgctggg | catcgaggcg | cgatcggcag | aggaacggcg | gcggtatgcc | 300 |
| gatctacagg | tccaggccga | acggcgccgg | gtcgagaagg | aactcgccta | ccagcgcgca | 360 |
| tacgacgaag | ccttcgcccc | cgcctatcca | ggcgaggggg | tgatccgcct | caccgaaagc | 420 |
| agcacagcca | acccgtcggg | cacgcgcaac | atgagcccag | cgttgcagag | cagcggggcg | 480 |
| ctggccctgt | tcgtccagga | caactgcacc | gcctgcatcc | agcgggtccg | cgacctgcaa | 540 |
| catgcagaaa | aggagttcga | cctctacttc | gtcggtagcc | agaacgacgc | agagcgagtg | 600 |
| cggcgctggg | caatcctcgc | cggcatcgac | ccgaagaagg | ttcgcagcaa | gcagatcacg | 660 |
| ctcaatcatg | acgagggccg | ctggatggcc | ctaggactgg | gcggagccct | tcccgccttg | 720 |
| gtacaggagg | tgaacggccg | atggcaacgt | ctgtag | | | 756 |

<210> 31

<211> 690

<212> DNA

<213> Pseudomonas aeruginosa

<400> 31

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| atgaaacgcc | catcccctgc | atcaatgatt | cttggcctct | gtttgacggc | aatggccggc | 60 |
| ctgctgagct | accagcagta | ccaactcggt | cagctccgat | caggcgtgga | cagtgccgcg | 120 |
| gaaaaggcct | cgctggaggc | gacccctggc | cgcttgagtc | gagtcgacga | gcgcctcgac | 180 |
| gccgtggatg | gacagcacct | ggtcagcaac | gaggacttcc | gttcaggcca | gcaggcgctg | 240 |
| tccaaccgaa | ttgacgctgc | gcaggcggtc | gccaagcagg | cctccgatgc | cgtcgagaac | 300 |
| ctggctcaga | ccaccgcctc | ggccggcgac | ctcttggtgc | tcaaggcaac | cgtggagaca | 360 |
| ctggacggtt | ctgtccgcac | gcttcaagaa | aagcaggcca | aggcgccgcc | gctgatcgtg | 420 |
| ccagcgccaa | aacgccccat | acccgccaag | cccaagccga | aacccaaacc | gatggagccc | 480 |
| ccgccccttct | cgatccttgg | cgtggagtat | cgcgggggag | aacggtttct | gtcggttgca | 540 |
| cctccgggat | ccaccagct | cagccagatc | tacctcattc | gccggggaga | tgccgtcgcc | 600 |
| ggcacgacct | ggcgactgac | cgaccttgac | gatggtaccg | cgcaacttca | cgtcgcgggc | 660 |
| acctcgcgca | gcgttcgcat | ccaaccatag | | | | 690 |

<210> 32

<211> 217

<212> DNA

<213> Pseudomonas aeruginosa

<400> 32

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgccgcgcc | gcttgatcct | ctcggtcacg | gagcgggata | tcctatttgc | actgccggta | 60 |
| agccgaatga | cctcactgac | tactccacct | caacgagtcc | gccccatcgt | cgatccgcca | 120 |
| gcgacgcggc | gatgccaatc | acttggtttt | ttcgggtgag | gtcagcctgc | tgtgctatcc | 180 |
| agcgttcagc | cctgatgcgc | gacgaagagc | ccccgag | | | 217 |

<210> 33

<211> 1032

<212> DNA

<213> Pseudomonas aeruginosa

<400> 33

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atggccgaag | ctatcagaaa | ggatgcaatg | atgacaaaac | tctactttga | tcttctgaac | 60 |
| tcgcctgccc | aggctcattc | gtcgatacaa | aagtctttat | ctgtgcaggc | aatctccaca | 120 |
| actgtcccaa | tactggagtt | tccttcggaa | accgtatacg | cctatgcatc | gtacataaat | 180 |
| gcattaagta | tcggtcaacg | catagatcct | gcattcacc | agagcttaac | gagtgccata | 240 |
| tccaacctgg | caggctcgcc | gattgcagta | agcgacattt | acaaaaaat | tcatgaaacc | 300 |
| acactgagaa | cacctgttga | gatgggctgt | cgctctaata | gcatcacctt | tgaggagtat | 360 |
| caggccacca | taaatcagca | agccatcaac | atggttcaag | atatgcagga | tggagacaaa | 420 |
| ggtgagaagg | tggaggccct | ccaggccaat | atgcagttcc | tgtatggaca | ggagataaat | 480 |
| actgatttca | tcgctcgtaa | tgaactcgct | gctgggcaga | gagcgaaaa | cgtcgcaata | 540 |

| | | | | | | |
|------------|------------|-------------|------------|-------------|------------|------|
| gttcaggggc | atatcaccat | cggggtacggc | ttcgatacct | tcgtgcatga | agcgtccgag | 600 |
| ctaaactctt | tgaatcttgt | tggttctacg | cgacagaagg | tattacctgc | attgcagcta | 660 |
| tcaacgtccg | acccaggctt | ctggagcgtc | tatgccttgc | tgggacaaag | tctcacggat | 720 |
| gacgatgggc | tattactctt | tagtgccaaa | gcgcgagctg | ttgttcaacg | catagcaagc | 780 |
| aaccagtttg | caggtaagtg | gaatgggcta | ccccagcta | tcaaaacggt | tgcgcttgat | 840 |
| ctatattatc | aatatgggca | gactggtaat | tttccaaaat | ttcaacaagc | tataaatagc | 900 |
| catgattggc | cggcagtcac | ccatgaactt | agaaactgga | atgggtgtacc | gaatgatcct | 960 |
| ctccagttca | ttacaaaacg | attggaagag | cgagccaagt | atctggcaat | atccttcaac | 1020 |
| tatgagcaat | ga | | | | | 1032 |

<210> 34
 <211> 666
 <212> DNA
 <213> *Pseudomonas aeruginosa*

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|-------------|-----|
| <400> 34 | | | | | | |
| atgaacaaca | cagtgagcga | aacgcaacag | atcaatatatt | acaaaaatcc | ggggcagttct | 60 |
| atttccggtc | tctacaaggg | gctggctaac | cagtgtctctc | ctggccagcc | atttccagag | 120 |
| gtacagcttg | tggaggcttg | ggatatccct | ctcgtactcc | atccggagtt | tgtgcctaac | 180 |
| ggagatgtct | cgaaaatcga | taaggagtac | ggaacgatcc | ttgctgctga | gtcagctcag | 240 |
| gttatcctgc | ttcaactcca | aatggctcaa | gacaaggcta | aggcgtgcgg | ggaggttaca | 300 |
| gccttgatca | gttctgtctc | ctccaatctc | aataaccatta | agagtcgtca | tgggtgcta | 360 |
| tatctaaacc | tgctgaaaca | atcaccgaac | cgatacccca | ctagcgtcgg | agttgagatc | 420 |
| atgtcagggtg | gcagtcggaa | ccaggattct | ggaatcgagg | tctcttacgg | tgccagttctc | 480 |
| ggcgtcttaa | ctcaatcaca | acttcaggcg | atgaatctgc | ctgccagttct | caaacagttg | 540 |
| ctcactcagg | gaatcggtgt | gaagctttct | cagcctgaat | attggcctgc | ttacaacaac | 600 |
| atagccactg | gtattcggtta | tacaaccgga | gtggcgataa | cgttggccta | ttggggccacg | 660 |
| gtttag | | | | | | 666 |

<210> 35
 <211> 675
 <212> DNA
 <213> *Pseudomonas aeruginosa*

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| <400> 35 | | | | | | |
| atgacccaag | ctgcgaaaat | accagcaa | gagtactcat | tgggggatgg | aagaggctac | 60 |
| atcaatatct | ggccggaaaa | ggatgaggct | caggcatttc | ttatccataa | tgatgggcct | 120 |
| aatggggcta | catgcagcct | taaaggcact | cttagagata | ataaaggagt | ggtgcattcg | 180 |
| ccgtattcct | ctgcttcagt | tttgctaagt | atcaccacga | cagggctgct | gtcagtaagc | 240 |
| gtcaaacgtg | aggaaaattc | gccaagctgc | tctgcatggt | gcggtcctag | agtttggttt | 300 |
| gaaggagcct | atagcgtccc | gcccaggggc | tgctactata | tgcaaaataa | gaaaaaaaact | 360 |
| cgacaaatgt | tgggtatgat | tgagaaaaaa | gagcttgatg | ccgctcgcgc | cttatcaaat | 420 |
| aagcttttgt | cagactgcgc | aaccgagcta | gcctatcctg | ccaagatata | cttgacgaac | 480 |
| acacttgcca | tgatcagtg | tgaaaaggga | gagaatgctc | gctgtttgga | gtatgcccac | 540 |
| cgggtgcaaa | agcaaattcc | tgtaagagat | gacggccaac | cggctgaaga | cttgctcccg | 600 |
| gcggagcacg | ctttcgctat | ggaacaacgc | gccaaggctg | atgctctgtc | tgagcgatgc | 660 |
| agcgacgaga | aataa | | | | | 675 |

<210> 36
 <211> 246
 <212> DNA
 <213> *Pseudomonas aeruginosa*

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 36 | | | | | | |
| gtgctggtag | agcgtttg | gactgatgtt | gaattcgcg | gcgagctgag | ccttgggctc | 60 |
| gccggccgct | gcccgcagcc | ccagggtagc | acctgcttgt | cggacaaggc | ctctttgcgg | 120 |
| ccccggtacg | cgcagagctt | gatatcctcg | cgctaccg | ctggtgctgc | ttgtatgctg | 180 |
| ctcagcaagc | cagccgccgg | tcttttcagg | gtaagcgtac | ggccaataca | cctttactta | 240 |
| ggttga | | | | | | 246 |

<210> 37
 <211> 360
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 37
 atggatattc gcctggagat tttagcgctt gaacagctgt tgctagagcc ggaatcgaga 60
 aagaatgata gactgcttaa acagctgctt accgaagact tcgttgaatt tggagctatc 120
 ggcaaaagct ggacgaaagc ggaggtgatc gtgggactaa aatcccagac ttggatcaaa 180
 aggacaatcg aggatttcaa actgctgtgt cttgcagatg gtgtcgcgtt agcaacgtac 240
 cgatgccgtc atcaaaatgc taatggcgat gagtcgttat caatgcgtag ctctgtttgg 300
 aaaacctacg aagatggttg gcacatggtg tttaccaag gcacgaggtt ctccgagtag 360

<210> 38
 <211> 1536
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 38
 atgacttcct cgcccaacct tgaccagatg accccggaac agcttcgtgc cttggcggca 60
 caggcggttg agttgcaatc ccaggctcag gcgatgagca ggaaaatccg caacaatgaa 120
 accctcatcg aacagttcaa gttcgaaatc gctctgctca aacgccacaa gtttgccaag 180
 cgcagcgagc aaatcagttc ggcgcaaggc agcttgctgg atgacctgct cgacaccgac 240
 cttgaagcta tcgaggccga gctgaaacaa ctcttccag cttcgccaca agccgagcca 300
 cggcaatccc cgaaacgttc gccattgccg ccgcagttcc cgcgcacggt gattcgccac 360
 gaacctgaaa atacccaatg gcctgcggc tgccaacttc aacgcacggt cgaagacgtc 420
 agcgagaagc tggattacac gccgggctgt tttaccgtcg agcaacatgt gaggggcaaa 480
 tgggctgccc gtcagtgcga aacctgatc caggcgccgg tgccagcca ggttattgat 540
 aaaggcatcc cgaccgcagg tttgttgccc cacgtgatgg tggccaagtt tgccgatcac 600
 ttgccgctgt acagacagga aaaaatcttt ggccgcgccg ggctgccaat tgcccgtcgc 660
 accctggcgc agtgggtcgg acaaactggc gtgcggcttc agccactggt cgatgcactg 720
 cgtgaagccg tgctgaacca ggacgtgatc cagcccgatg aaacaccggt gcaaatgctt 780
 gcaccaggcg agaagaaaac ccaccgggtc tatgtctggg cctacagcac gacgccgttt 840
 tcggcgctca aagcgggtgt ttacgacttc agcccaagcc gtgccggaga acatgcacgc 900
 aacttcctag gcgactggaa tggcaagctg gtctgcgacg acttcgctgg atacaaggcc 960
 ggttttgaac aaggcatcac tgaaatcggc tgcattggct atgctcgccg caagttcttc 1020
 gacctgcatg tcgctaacia aagccaactg gccgaacagg cgctgcactc aattggcggg 1080
 ttgtacgagg ttgaacgcca ggctcgggac atgagcaacg aagaccgttg gcgaatacgt 1140
 caggaaatgg cggtagcgat cagcaaaaaca ctgcatgact ggatgttggc ccagcgcgac 1200
 ctggtgccc aaggctcggc cacagctaaa gccctcgact acagcctgaa acgctgggga 1260
 gcgctgacgc gctacctgga cgatggggct gtgcccatcg acaacaatca ggtggagaac 1320
 cagatacggc cgtgggcgct cggacgctcg aactggttat ttgccggatc gctgcgcagt 1380
 ggcaaacgag cagcagctat catgagcctg atccagtcgg ctgcgatgaa cgggcatgat 1440
 ccgtatgcct acctgaagga cgtgctaact cgctgccga cgttacggtc gaaagacatc 1500
 agccagttgc tgccgcatca gtgggtacag atctag 1536

<210> 39
 <211> 336
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 39
 atgatccgca tcgatgcgat ctggctagcc accgaaccga tggacatgcg cgccggcacc 60
 gagacggcat tagcccggtt aattgcggtg ttcggtgcgg cgaagccgca ctgcgcttat 120
 ctgttcgcca atcgccgggc taaccgaatg aaagtgcgtg tgcacgatgg cgtgggcatc 180
 tggtttgccg cgcgtcgact gaaccaaggc aagttccact ggcccgcatc tcgccatggc 240
 tgcgaggtcg aactcgacag cgaacaactc caggccttgg tgctgggctt gccgtggcag 300
 cgcgtcggca caggcggtgt gatcagcatg ctgtaa 336

<210> 40
 <211> 267
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 40
 atgcgccaac gaagctctta cccgaaaccg ttcaaagccc aggtcgttca ggaatgcctg 60
 caacctgggg caacggtgtc cagtgtcgcg atcagccacg gcatcaacgc caatgtcatc 120
 cgcaaatggc tgacgcttta tcgagaccag cccgtaccag cctcgttacc agcctttgtc 180
 ccgctgaagg ccacccctaa acggccagcc gaaacgtcag tgctcattga actgcccatg 240
 gccgggcaaa tgatcacggt gaaatag 267

<210> 41
 <211> 1227
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 41
 atggctttat ctcttattcg tagtctcact gcgtccgcct cacgaaacat ctcggcgttg 60
 aaacgcgatg ccaaacgctt gcagaagaac tcctttcttg tgtttggaac agaatatcca 120
 ctcaagggtt gccaaaatgc ggtagcagtt tctcgcggct tccgctcact cgctgatgtc 180
 gataaactgg agcagcacat tggcatgaat agaagcgctc cattctgggt gatccgtggc 240
 cgcaacgata cacaccaggg ggtactggaa gcgctatatt gtttagacct tgaatatacc 300
 gagaatggcc cgtcgtttt tactggaaac ccaaagcact ctatacttcc agccttagtc 360
 ctttttcttg agcaaatgag ctttaagaaa ctaccggac taatcctcat cgaaacaaaa 420
 gagacctcaa tccaaacaac ccatatattc gacgcaatag aaaaattaga agtcgaagaa 480
 actctaaata aatttcgatt tcttgacttg cgagaccgaa accttcccgt ttcgcttagt 540
 accgaggctc gttgctggat cgagtcaatt gtcagtttat tgccaaacga catccaagag 600
 gaaatacgta ataaaggatg gtcaactcac ttagagatca gtgcataatga gcatgcaaag 660
 tctcgtaatc aagtatttgg ctccctccaac ttcccttgcg tccccttccct ctccataaag 720
 tcagcgatct atcaactcat ttcaggcgca taccctccct tatggatgca gccatcctcc 780
 tctggcgaaa tatctaaagt tgatatacgc cgacctcctc tcgaaaaaag ctgagaggaa 840
 accttacttt atctcataaa aaaattagag aatcgacagt tccacacagg catttcatgt 900
 gagcatgaga gtcgatggcg gccgtatgtc gtactcttct ccagggaatga tccggctagc 960
 gaggtactag caggagtatt acactcgtac ttttcttggg agcaagatag agaccatcgc 1020
 tcacccaccc tttatgtttc agatggagca gttccctatg ctcccaagct tctaggttta 1080
 ggcggccata cggtcattgc aaatggaatc actgaaattc ccgacgggga tgggtcttggg 1140
 gagttctatg gctacaagaa ctcaactaaa gtcagctcct tatctaacgg aatacagttc 1200
 atgggtaagc atgtatcact aaagtaa 1227

<210> 42
 <211> 2250
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 42
 atgaacgctc tgaccaaac ggccgcctc gccgcctccc acctgaacat caacctgacc 60
 gacttcatcg acgagttcgg cgacgagctc ctggagtcgc tcaatcgctc caaccccccg 120
 gtctataccg gctccgtcaa cgctcaccgc cagttgggtga tggaccgact caagcgcaag 180
 cccttcgcgg ccaggccga ggtcgtccag gccatcaccg ccctgctgct ggaccgtaac 240
 gagcaggccg gaatcatcaa cgccgagatg ggccaccgga aaacctatgat ggccatcgct 300
 gtcgcagcgg tcatgcacgc cgccggctat gcccggaacc tggctcgtctc tccgccgcac 360
 ctgggtctaca agtggcgccg cgagatcctg gagaccatcc cagccgcccc cgtctgggta 420
 ctcaatggcc cagatactct actcaagctg ctcaagctgc gagatcagat gggcgacgcc 480
 tacgacgggc gccaggagtt cttcatcctc ggccgcgtgc ggatgcggat ggggtttccac 540
 tggcggtctc cctgctggaa gaaacgcgcc gccggcggcc aactgctcgc tgcgtgcccc 600
 gattgcggac aggtcctcga ggacctggaa ggcaacctgg tcacggtgga ggagttcgag 660
 cgtggtgacc gtcgacgtac ctgttctccc tgccgtgggg cgctctggac gctgatccga 720
 ccaggcaagc ccgacggcgg caaccggcgc gcaacgattc tcaagtcgat gtgccggata 780

| | | | | | | |
|------------|-------------|-------------|-------------|------------|-------------|------|
| ccaaccatcg | gcccgggtcag | ggcgggagcgc | ctgctgaaacg | acttcggcga | ggacttcctg | 840 |
| gccacgatgt | tgggtggacaa | cgtctcggag | ttcatcaacc | tgatggacgc | caagggcaac | 900 |
| ttcgtcttca | gcgatcggca | ggccaaacgc | atggagcgat | cgatggcaaa | catcgagttc | 960 |
| ggcttcggtg | aaggcggcta | ccaaccgacc | gagttcatca | agcgctacct | acctgatggc | 1020 |
| tacttcgacc | tgctggtgct | ggacgagggg | catgagtaca | agaacagcgg | ctcggccccag | 1080 |
| ggccaggcca | tggggttct | cgcagccaag | gcacggaaaa | ccgtgctgct | gaccggaacg | 1140 |
| ctcatgggcg | gctacgccga | cgatctgttc | tatctcctgt | tccgcacct | caccagcgc | 1200 |
| atgatcgagg | acggctatcg | gccaacgcg | cgcggcagca | tggctccgc | agccatgtcg | 1260 |
| ttcatgcgcg | accacggtgt | gctcaaggat | atctacaccg | agcgcgacgg | tgattcgcac | 1320 |
| aagacagcgc | ggggcaagaa | gctctcggta | cgacaggtga | aggctcccg | cttcggccca | 1380 |
| aagggcatcc | accgcttcgt | attgccgttc | accgtgttcc | tgaagctcaa | ggatattggt | 1440 |
| ggcaacgtac | tgcccgacta | ccaggaggag | ttcatcgacg | tgcccatggc | gcctgagcag | 1500 |
| gcttcggcct | atcagcgcct | ggcggccacg | ctgacagcgg | agctccgcca | ggctctggcg | 1560 |
| cgacgagata | ccacgctcct | gggctgtgtc | ctcaacgtgc | tgctggcttg | gccggactgc | 1620 |
| tgtttccgac | cggagatcgt | caagcatccg | cgaacccggg | acacactggc | cttcgtgcca | 1680 |
| gcgatcttcg | gtgacgagca | gttgataccc | aaggagcagg | tgctggtgga | cctctgcttc | 1740 |
| gaggagaaa | cgaaggccg | caaggttctg | gcatacaccg | tctacagcgg | gacgcgcgac | 1800 |
| accacgtcca | ggctgaagaa | agtgtctcag | caatccgggc | tgaaggtggc | agtgtctacgt | 1860 |
| gcttcggtcg | ataccgctcg | acgcgaggat | tggatcctcg | accaggtcga | tcgcggcatc | 1920 |
| gatgtgctga | tcaccaaccc | ggagctggtg | aagaccgggc | tggacttgct | cgacttcccg | 1980 |
| accatcgcg | tctgtcaaac | gggtacaac | gtgtacaccc | tgacgagggc | cgcgcggcgg | 2040 |
| tcgtggcgga | tcgggcagaa | gcacccggtg | aggtgtgtgt | tcttcggcta | cgccggcgac | 2100 |
| tcgcagatca | cctgcttaca | gctgatggcc | aagaagatcg | ctgtggctca | gagcacgtcg | 2160 |
| ggagacgttc | ccgagtcagg | tctcgactcg | ttgaaccagg | atggggattc | tgtggagatg | 2220 |
| gcgttggcac | gacaactcat | cgcagcatga | | | | 2250 |

<210> 43

<211> 1452

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 43

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|------|
| atggccctca | tgttcccgcg | cttggcgcgc | aactttgcac | gcaacggcta | cttccttacc | 60 |
| gatgaggtca | ccctcgaacg | cgtctcgcag | gccctcactc | ttgccccgtc | gggaaggatg | 120 |
| aggatctgtg | acccctgcgc | cggtaggggt | gttgccctgg | ctgaggcagc | acacaccctc | 180 |
| ggccgcgac | aggtccaagc | cctcgtgttc | gagtacgacc | gcgagcgcgc | cgaccatgcc | 240 |
| cgaggattgc | ttgaccgagt | gctgcacagt | gaccttttcg | acaccatgat | cagcaggcag | 300 |
| tcgttcggac | tgctctggct | caaccgcgct | tatggcgacc | tggtagcgga | ccactccggt | 360 |
| gcgtcgcagt | accagggcag | cggccgcggg | cgtctggaga | aagcgttcta | ccagcgtgct | 420 |
| ctgccgttgc | tgacgtacgg | cggcgtcatg | gttctgattg | ttcctcacta | cgtcttggtg | 480 |
| gatgagctga | ctggctggtt | gagcaaccac | ttcaccggcc | tgcgcatcta | cgcagccgcg | 540 |
| gatcctacct | tcaagcaggt | ggtgatcttc | ggcatccggg | tccgtcggca | ggacctggcc | 600 |
| cgggcggacg | ccaatcaggt | gaggtctcgc | ctgcaggcga | tcggagcggg | ccaggaaaaag | 660 |
| gccgaggaaa | ttccagcggc | ttggcgtggt | gaaccctacg | tggttctgcc | ggccaccagc | 720 |
| gagctggagc | acttctaccg | agtaaccctg | gagccggagc | agttcgccgg | tgaaatccag | 780 |
| cggctgcgag | gtctctggcc | tgacttcaac | ctgcacttcg | cgcaagcggg | gctgcagccg | 840 |
| cgcccaccag | tccgcgagct | gtctcgtgtg | cacctggccc | tggccctggc | cgccggcgcg | 900 |
| atatctggcg | tcgtgcgac | gaagtccggc | cggatcctgg | tcgtgaaggg | tgacacctac | 960 |
| aaggacaagg | tccgcaagac | cgaattcacc | gaggacgacg | acggcaacat | caccgaggtg | 1020 |
| aggatcctca | ccgaccgttt | catcccgatc | atccgggcat | gggaaatgac | accctcctcg | 1080 |
| gtcaatcagg | gccgcgtgct | gacctcagc | tcctcggccg | cgaccacgga | agaagctgaa | 1140 |
| gagccccaac | ctgagccggc | ccccgcaccc | gcaccgctgc | tgatcagccc | tggccgggtc | 1200 |
| gtaatgaccg | cagccgtgag | ccacctggtg | gaaaccggtc | aactcaaccc | agcgcttttg | 1260 |
| ctgaaacgcc | atctggcggg | agattgggga | acgctggacc | aggaagactg | gaacaccaac | 1320 |
| cagagagccc | tgaagtccgg | cgatcggctg | ctgtcgtcct | acgacatcga | cgccggcgac | 1380 |
| gaatccaggc | tctggatcat | cactgaggca | gaccgcagct | caaccacgct | tttgctccct | 1440 |
| agcgattact | ga | | | | | 1452 |

<210> 44

<211> 606
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 44
 atgcccagtc ccaccccgt ctaccagatc gaagagtgtc cagacctgta cgtcgacgcc 60
 tgcgtgtgcg acgagcagtg caacctggc tttctttcgg cctggggccg cgacaccgtg 120
 acacaagagt tcctggccag gctgacgctg ggccgggaag aaaatggcat cgaccatttc 180
 cacatcatcg tggacggccg ccgcttacct gtcttcccaa accaggatct cctggagaaa 240
 cgcaccaccc gtcagttccg cggcacgttg ttcggcagcc tgctcaatct ttggctgttc 300
 gatcggcgcg cctcggcgcc cgaccgaggc aatcacctcg ccttcgcact cctgcagcgc 360
 gatgaggatc cacaccagag gctctggccg ctggtgatgg aaacctgtcc gctccccctc 420
 ctgcagcact ggcgcgagcc ggtgatggag gttctcacc agcaccagat gttgacggcc 480
 ctaccggga cgatcggcaa cgtctgcgcc tggcgactcg ccctgcgggt cgacgtgctt 540
 gagcccaccc tcggtgaggt aatccgcgaa agcattctta ccaccgatgc tcaggcgcaa 600
 gcctga 606

<210> 45
 <211> 255
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 45
 atgaatccat tggtcaccaa cctcaccag gaaaccctcg cctacctcga ggaccaactg 60
 tccaacaacg acgtcgccgg cgacgacgag ctcatcgact tggtcatcga ggagctgtcg 120
 ctgaccttgg agcaggcgga agcggctgtc gcgctacgag atcagtagct ctgccaggtc 180
 ttcctgatcg gccaaaggcc gctgcaccaa gccgatggac tcagcttcga ccctcacacc 240
 aagagcgctt ggtag 255

<210> 46
 <211> 363
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 46
 atgggatggc ttttctcaca tcagacgaag gaagacctgc tgcgtgagct gctggcccca 60
 accagtacct tcgcaggcag caccgaggtg ctggcacacg cagtctccgg caatgaactt 120
 tggactgtcg taaaacgaac ttttcacctt gccggattct atttcggcaa gccggccggt 180
 cactcgatca ccatgatcga gctgcacttg ctggactgct cggccgggca atggggctac 240
 aagaccattc cggaaagcgc cggcccgttc tactacggct gtccgctgga gttcctggac 300
 ctggctcacg atgagatcaa ccaggaatgg cgtaaagcc tgacgcacga acaccaagcc 360
 tga 363

<210> 47
 <211> 276
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 47
 atgaaatcga tctacaacac ccaggcttc agcgaggagt tgttgctggt ttgcgcctcg 60
 ctgcgcgagg tcggactgga caatctggct gaccagttcc gcgcggcagt gttcgaccga 120
 tccgtcgtcg accaggccat catcgactg cgtgagcggg tgaagacccc ttcgccggag 180
 catgcggcgc acaacgagcc ctggtgttac tgcgactggc aggccaggca aacagcttac 240
 cggctcctcc agcgccttga gcgcgcaaca cgctga 276

<210> 48
 <211> 690
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 48
atccccctcac cagcatcccc cttcggcgagg atcatccttt tcgcagggtca taccatgatc 60
acagttcccc gacagttggc cattcgaacc atcaacggtc gctatggcga gttcaatgtg 120
ggaaaactct ggacttcgat cggggagttc atcatcaagg atgccttcct ggatcaacac 180
accgaaggca agtaccgcgg tgatttcgtc atcgccaata tccgccccca ccactactcc 240
gccggcggtc ggctagtcac cgagatccgc gccatagtgg acagcatgac gctgaacgat 300
atggacagcc tcagcgacga ggaggtagag cgtctttccg gcaatgaggt ggatccgctc 360
gacgaagtgc ccgagatcca gctccccaca gtagtaccgg cgataccacc aaagtgcgag 420
tcaccccgaga agtcgaagcc tctgtgcctc gctgcaacca gggacgcgac tttcgggtatg 480
gacactccgg ctcttgacga gcaggccgac tctctggaca cagacgcgga tgcagaactg 540
ttcgggacgg tctggccgct aggcgaaatc gtcaagctgg acaccacggg cgaccgcaag 600
cgactacgcc aacagtgcgt gcgactcggc gcgctgggct atgagctcga cttcaaacia 660
caggtgtgga cccgcaagga ggccgcatga 690

<210> 49
<211> 351
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 49
atgacctctc tcaacaacca ctccagcgca ggtcacactg ctgcgtacct caaactcccc 60
atcgttctca ccaacgcggc ctggctgcgc ctgggtctatc tcgccaaccc tgccaggggtc 120
gacgagatgg gcacccggct ggccagtgtc gttcaaaccg cctggcagga gctttctctc 180
cagccgaccg cgaagcacat ccaattccac ctgtaccaca aggaggaaga ggggcaggac 240
cgcgcgctcg cgctgtggt tctctcgata gtcgagccgt ccgatgagcc ttcctacctg 300
cgcctcgagt tgcaggaaga gtgcctcgcc gaacaccggt ttaccgagta g 351

<210> 50
<211> 708
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 50
atgactcaac tcaaccggtt tattcgcggc tatgagagtt tccgcatcga gcgaaacctg 60
cagatcactg acgaaggcaa caatctaccg tgctaccgag ctctgcatga aaccagcag 120
cacctcccag acgaatatct tcagtgcgag ctgtgctact tcaataacga tttcgcggtg 180
gtagtccaag agtttagacga tgaaagagtt gaaaaatgcc ctcaccaagg aatagtga 240
aacgtacttt acagcatcta cggtagcag gacggcagaa aaaagcttat cggagatcaa 300
tactcactga ccgaagccga gagtgtcggt cgataccttt cgttcggcgg cggttataac 360
ccctgctggg agatcagaaa aacacatcta cccatcagcg cgtggaatag cctctacgaa 420
aggttctcga ccaagatgcc aatccgcttg ccctcggtgt tggatcgct cttctggtgt 480
aacgagcacg gtgccgtggg ctttcgcttg cacaacaccc cttggacgga tgagtgtctg 540
gagatcctgg agatgaccgc agccgctctt cgacaagaac agcttgctt cggcctcgac 600
gaacaccttg tcgatctgct tcacctcgcg ggacaagcag acattcggct cctgggtactt 660
gatccattcg cgcccacgct caagggcctg ccgctttatg acgattga 708

<210> 51
<211> 237
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 51
atgggactgg tgtttcttac cgaaaggaga atcaccatgc aatacggaaa gctggcgctc 60
gccatctca gcctggaact gccgttgacg gtacttatga ataagaaccg tgcttactac 120
atcggcactt ctgacgaaga aggaccagcc tcgcgcgagt cgggtgaata ttaccctca 180
cgcgaacttg cccaacaggc attagaccac ggcacttgga cgcaactgga atattaa 237

<210> 52
<211> 267

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 52

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atgggaaatg tttggcgatt atgccagggc agatacctgg gcattgttgt tggccaggaa 60
cagccaggcg aagttgcaga actgactgct gagcagcagc tcgtcctcga cgtcgtctgag 120
gctaacctcc tcaacttccg gcagggcggg cagttctacg atttgatgt tgctcatgat 180
gatctccaga taatggagaa caccacggcc tggggggaga tggtgcccc cggatgggta 240
tgcatgaag agtggcgcat agcgtag 267
```

<210> 53

<211> 540

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 53

```
ctgacgggca aggtgtttct ccgctttcgc ttacgaaact ggagaatcat catgagcaac 60
aacacccaag cccaagaagc caagtatttc gacctgcaca ccaccggtat cggctacctc 120
aatcgcattc gcgaggtacc gatccgccga ggtgaaccat tcctcgccgt aaccgtcgca 180
gccctccatg gcgcggcaga cagcgtggaa tactcctaca tcgactgcaa agtggtcggc 240
gcccaggctg aaaagcttgt ccgccgttgc aaggaaagcag tcgaggccaa gaagaagggt 300
ctgatttcct tccgtatcgg cgatatctgg gcggatccct tcatccacca gaaaggcgag 360
aaacaaggca agcccgcgc aagcctcaaa ggccggtcgc tcttcatctc ctggatcaaa 420
gtggatggca ccaccgtcta cgatgcgaag gaagaagctg aaaaagccca gcaaggcaaa 480
ggcgaacctc aaggtgagcc cgcagcccc gctgagcacg ctgaacaagc cgctgcttga 540
```

<210> 54

<211> 567

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 54

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atgtccaagc aatccaccag cttcgaaatc ggctttgcc tcggcagtgt tgtgcgtgag 60
ttccgcagag cgctcagtcg ccctccggtc gtagtgcaag cacaagcgcc ggttgcggtg 120
agagtccagc gcatcgatcc tgcttctctg gccggcccga ccgctggcga gctagaacac 180
atcagcgaca tcccagccat cgtccggctg aagaaggtca acctgaatga ctggatctta 240
gccaatacgc gcgaggtgca aaagcccaag cgcgcacgca aacccaagcc ggccaaggcg 300
accgccaag ctgaaacgcc agtcaggaag gagctcaaga tgggttccct cgaccatttg 360
attgcaccca actccgaaag cgaaatggg agggccctc tccagttaga gtccctgaac 420
gatcatgaga ttgctctttt gccagcacct cctggtagcg cagtctcttg ggaactccat 480
cggcgtactc aggaagaata ccaacaagc tggcaggact acttgtccac catgacggat 540
gaacaagtag ctgctctcgg ccgctaa 567
```

<210> 55

<211> 645

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 55

```
atggtgtttc tcctgcaggt tgagggtgcg gagaaaacac tggccctggc ggggaagtgg 60
attccccgct gggttgcgga agggagcttc tatcgaccga ggccgaccga ccgcgctacc 120
agaagctatg cggctctggg ttggatcaac acggtgggct gtgctgcagc atttcggatc 180
cgagctgcat gggggcatgt cgctgacaac gtcagcagat cacgcgttca tcatcgaagc 240
ggggggcgaa agtgtcaagg tcaagcagga gggggagcgg atgcagcggg cggagagcga 300
gggcggaaga gcgcggctgg tagaaacct gtcaaaggt tccccagccg tgtctggaag 360
gggagtcaag tgagccacct gtggttgaat cgtcgatccc tgggcattga tcgtctcgat 420
cccatcacc ggccattatc gtggcttggc cagcaaacag taggcacgca tccgcgtaca 480
aagggaagccc tgcgtatcac cggcgggcca ccggcaggga gaaggatccc gatgggtagc 540
```

ctgatagtc tggagcagga gcatcaggct acccatggag aggggaaaag gaggggcccgt 600
aacaccagta cgacccttaa atcgaggaaa caccgaacct cttga 645

<210> 56
<211> 438
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 56
atgccgctga tgtggatcgt cctgggtgctc gcgctcatca ccgggacctg gctgagtgtga 60
caaagcgacc acgcgacctc gagcgccgaa ctggccgagg tcgacacctt ggccaggagc 120
ttgctgctct tccgggtccag tctggcgagg tacgcacacg ccaaccccgg ttccaccggt 180
tcgcccggcg actccgctct tggtttaccg gcctgggttc gcaagccagc gcggcttcag 240
ggctacatcg ccgcccgcac cagctacgcc ttcctcgccg ccgcccgggc ggggctggcg 300
gcggccgtgg atgctggtac ggaatccgac ctggttgccg tcaggcgcaa cggccagtta 360
gtcacgcgcc gcctcgagc cactgtcatt gcgctcccta cgcccatccc cgaggcgcg 420
gtggtcgcg tcaaataa 438

<210> 57
<211> 1329
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 57
atgaggagta cgcgagcag tggattcatc tcgatcgaac tgatgatcgc cctcgctcgtg 60
atcgccatcg cgaccgcccg tggcatatcg gtcctgatga gctacctgga cggcttggac 120
gagcagcacg cggcccagca gcaacagcag gtggccaagg cagcggagaa gtacctgaag 180
gacaacttca gcacggttct ggccagcgcc ggcgccacgg ccccggcggt gatcaccgtc 240
ccgatgctgc gcaacacccc ttacctgccc gcaggcttcc gcgacaccaa catctacggc 300
cagcaatacc aggtcctggc ccgcaagccg gcggccaacc agctcgaaac gctgatcgtg 360
accacgggtg gacaggtagc ttccgaactc tcgatccgcc ggatcgcgca gctcatggga 420
gccaccgggg gctacatctc gaaaaccaac accagtatcg cccaggggcg cgctggcag 480
gtggccttaa gcaatttcgg tagcgctccc ggcgctggac atctggcgac ggcgctgttc 540
ttccaggacg gcgcatcgc caacgagtac ctctaccgca atgccgtccc gggtcaccc 600
gaaactcaacc ggatgaatac cacgctggac atgggaggca acaatatcgc cgcagccggg 660
gcgatcacgg ccagcggaac catcaccacc agcgcggaac tcagcgcgcg caacgtgaca 720
gccactggta cggtgaaagc cggcactgct gacgtcgccg gcgagacgta caccggaggc 780
tggttcagga cccgtggtga cacgggctgg tacaacgaga aatggggcg cggctggtac 840
atgagcgaca gcacctgggt gcgctcctgg atgaacaaga acgtctacac cggcgggcgag 900
atgaaagcgg gcaaaactcac cgccgagggc cggacggaag tcggcgagta cctacagctc 960
aaaggcgtgg ccaccgaagg agccaactgc tcgccgaacg ggctggcagg catcaccagc 1020
accggactct ggctgtcctg ccaaaacggg aaatggggac gaaccgcccg ctccatggcg 1080
ctgaacacca cggccggcgt gatcaaggac tgggttacgt tgcattggtca ggatagcgcc 1140
atggtgaact acgactacgt ccgctacgcg atcacctgcg gcggccgatt ctgcgcagtg 1200
ggcttcaacc agacatttgg caccaactac tcgttcgggc taatcactga gatcggccca 1260
ggcttcaact acccggaacc ctacaagacc cccgactcga ccaacgtgac cgttacctgc 1320
gtgaactag 1329

<210> 58
<211> 942
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 58
gtgagtgtga acccgatcat ccaggctcag ttcgtcgacc tctacctcgg tgaaggcttc 60
gccgacgtga aaggcctggc cggcgccggc gcgcccag tcgaagtgcc tcgagagtgg 120
gagtcgcacg tccaggaaact gctccagatc tgcaggcaaa cgctggagga gctgcaggac 180
cctgagttcg ccatcgtcgt cgacggcggt ctgcttcgcg tcacctcct cgaagacgct 240
ttcagtggca gcgtcttcgt gctgcgcccg tcgagcgccc aattgcggga gttccaagag 300

| | | | | | | |
|------------|------------|-------------|------------|------------|-------------|-----|
| atcggctatc | cgagcgaagt | ggtttccgca | ctgatggatc | cgcagttgca | gggcctggtc | 360 |
| ctgttctgcg | gcgagatggc | gacaggcaag | accagctccg | ccgcctctct | gctcctggcc | 420 |
| cgcctgcagg | agttgggctg | ggtgggctgc | gccgtcgagg | acccgcagga | aaccaacctc | 480 |
| agcggtcagc | atgggctcgg | ccgctgcatc | caggtcagaa | cctcacggcg | ctcaggcgga | 540 |
| tacagcgagg | ccctgctgcg | cacgctgcgg | gccggcgccg | acctgggtgt | gattggcgag | 600 |
| atccgcgacg | aggacaccgc | ctaccaaggcc | tgcaaggcct | ctctgaccgg | cagcctgggtg | 660 |
| atcgccacca | ttcacgcgaa | aagctgtcat | caggcgatcg | agcgcttggt | gacgctcgcc | 720 |
| cagccactgg | cgagaaacgc | ctacgacgtg | gttgccgaag | gcaccaagc | tgtgatctgc | 780 |
| caagcgctgg | agagcgatgg | ttcctcgcg | cgctgaccg | ccgagccact | gctgttcaact | 840 |
| ggcgacgacg | gcccgtccat | gcgcgacaag | atccgccgaa | aggaggtca | tctgctgcag | 900 |
| gacgaccaag | ctcgccagtc | ccggcaaaag | ctatggagat | aa | | 942 |

<210> 59

<211> 531

<212> DNA

<213> Pseudomonas aeruginosa

<400> 59

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| atgagcacta | cgcaacgcac | ttcccgtccg | acgcaggggcg | gtttcgtttc | catcgagatg | 60 |
| atcatcgtgc | tgatcatcat | cgccatcggg | gtcggcctgg | gcctggccgc | agcggctgga | 120 |
| atgttcagtt | cgtccaacgc | caacgaggaa | caacgcaaca | tcagcgatcat | tcgggccaac | 180 |
| gcacgcgccc | tgaagacctc | ttcgggctac | ggctccagcg | gtaccaacct | gatccccagc | 240 |
| ctgatcgcaa | tcaacggcgt | gccgaagaac | atgagtgtct | cctccggcgt | cgtctacaac | 300 |
| gtctacggcg | gatcggtcac | tgtctcgctc | accggcatgg | gcttctcgat | caccaccagc | 360 |
| aagttgcccc | aggacgcctg | tatcacgctg | gccaccaaga | tcgcgaagaa | caccttcgag | 420 |
| cagaccaaaa | tcaacagcgg | atcctcgatc | accggagaag | tgaccaccgc | agccgcgacc | 480 |
| caggcctgca | gcagcgacag | caacagcatt | acctggacct | atagttcgtg | a | 531 |

<210> 60

<211> 1080

<212> DNA

<213> Pseudomonas aeruginosa

<400> 60

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| atggggggct | tctgggagca | gttgagttc | gccttctaca | gcaagcagtt | cggccgcaag | 60 |
| gaacgcctgc | agttctacga | aagcatgtcc | accctgctcg | aaaacggggg | cccgttgaag | 120 |
| gatgctgtgg | cagaggtgca | caagatcttc | gctcatgagg | ggcagcatcc | gtttcatccg | 180 |
| gtggccatcg | ccagtcgcga | agcgtgatg | gggctgtcca | acggcaagcg | tctggccacc | 240 |
| gccatggcgc | tctatctccc | cgcccaggag | cgagcgttga | tcgaggccgg | cgagatgagc | 300 |
| ggcaacctgg | ttcaggccat | gggcgatgcc | gtctccctgg | tcgaggccca | ggccaggatc | 360 |
| cgcgccacca | tctggcaggc | gctgctctac | ccctcggcgc | tgtccgccat | gatggtgttc | 420 |
| ctgctgtgca | tcgtggccta | tcgcatggtc | cccagcctgg | ccaggctctc | cgaccagtc | 480 |
| acctggaccg | gcccgtcgc | cacgctcaac | gccattgcca | gcttcgtcac | aggacctggt | 540 |
| atctacgttc | tggtcgccgt | catcacctc | acgggtgtgg | tcatcgtcac | gttgccgacc | 600 |
| taccgctgga | aaggccgggt | ctggtggac | cggacgctgc | cgccctggtc | catctaccgc | 660 |
| atgctccagg | gcaccacett | cctgctgaac | atggcggtca | tgctcaacgc | cggcatacgc | 720 |
| ccctacgaca | gcctggccag | catgatcaag | atctccccgc | cctggctgaa | gcagcgcttg | 780 |
| gaagctgccc | gctacggcgt | gggcctgggc | cagaacttgg | gtgttgccct | tcgcagcgcc | 840 |
| ggtcacgatt | tccccgaccg | gcaggccatc | cagtacctgt | gcatacctgc | caaccgggga | 900 |
| ggcttctccg | aggcgtggt | caagttcagc | cgccgctggc | aggagaccag | cctcaagcag | 960 |
| atcgagctgg | ccgcgggct | ggtgaagaac | ttcgccctga | tcttcatcgg | cgcgctgatg | 1020 |
| atcctggtcc | tgctcggcgc | ctaccaggca | cagcagctca | tccaatccat | gaaccactga | 1080 |

<210> 61

<211> 1581

<212> DNA

<213> Pseudomonas aeruginosa

<400> 61

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atgacgaacc ttcagattgc cgcgcttgcg cagccctcca tggtagacca actgctcacc 60
gccgacggtg gtgaatggga ggtatcgaag cacctgcagg aaatcatggc tctggctgcc 120
gacggcacgc tctatctatc ggagagccac cagaacgaca tacacgttct gtcgttcac 180
gaccgtctcg atcgccgtgg cttccgatac cagctcaacc tcaccgacct gcagaccatt 240
caccagcttt accgcgcgct cgccatggac ggcctggctg atagcgatgg ccagcgcgcc 300
accagatgc aggagcgctg ggtcaagatc attcgtaagg cactgagct gcgcgccagt 360
gacgtgcatt tcgtcgtgag tcccgccggc accggcagca agatccgttt ccgctcgac 420
ggcctgctga agaccgtcga gcagttccgc agccaggagc tgcacgaact ctgtgcaacc 480
atctaccaat ccatgtgcga cgtggccgag ccactgttca agccgcaact ggaccaggac 540
gcgcggatga gccagacctt cgtcgagaag ctcaacctgt tcagtggccg gatcgccacc 600
cgcccgctg ccggggggtt cctgatgatc ctgcgactgc tctacgacga caccggcctc 660
gacagcctgg agcagctcgg ctacctgcc gagcagaacg cactgttcga tcgcatgatg 720
cgtatgccct acggcatcaa catcctgtcc ggccccaccg ggtcaggaaa gtcgatgacc 780
ttgaaggcca ccctggaagg cctcgacaag ctccatggcg gatccaagca catcctgacc 840
atcgaggatc cgccggaata ccgcattcgc ggcgaggca tcaaccagac cccactggtc 900
tacgacgcca ccgaccaga cgcagaacgc caggcctggg ccgcgggcat cgccaacggc 960
atgcgcctgg atccggacta catgatgatc ggcgaaagtac gcgacctctt cgccgctgtc 1020
gccgcgttcc gtggtgcgat gaccgggac ggccatggt cgacctgca caccaacagc 1080
gcgatcgcca ttgtccagcg cctgaaggac ctgggcgtcg acccggtt gctgttcgat 1140
ccggccctgc tgaccggcct gatcaaccag agcctgctgc ccaagctctg cccccactgc 1200
aaagtgcgct tccaagacca ccaagaccaa ctgcgcccgc acttggtcga acgggtccga 1260
cgcttgaccg atgtttccca ggttcacgtc aaggggcctg gctgccaggc ctgccgtggc 1320
tccggggtca acggccgctc gatcgtcgcc gaggtggtt tgcccacct cgcttcatg 1380
cgtgtgttcg ccaaaggcgg ccagccgag gcacgcaact actgggtcaa gaccatgcag 1440
ggcatacca agcacgcca cgcatccgc cgcaccaacg agggcatgtt cgaccgcag 1500
atggtcgagg atttcattgg gccactcgac ttcgatgagc atctgctcga cgacagcttc 1560
tactcgagg aggcgtgctg a 1581
```

<210> 62

<211> 534

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 62

```
atgcaactg agccgatcgg catggccgtg gccgtgctct tcctcctcgc gtctggccag 60
gcctgcctg gcaccgttg cgaacttgcg gagatccagg cccaggccat cctcaccgag 120
gccaagggtg gcctggccac ggcgagcgg caattggaag gcaaaggcga aaccggccag 180
gtcgtcagcg cccaggggca gacgttcgcc atgcgggtgc cggcgggcgc gccgacgatc 240
acgcagccgg ttccgccagt ggtgcggacc atctacggcg ccggcggcaa gatgactgcc 300
acgttcttgt tcccgggcgg gtacgaggtt gacgccgcca gcggcgcgga gctgcctggc 360
aaatacccg tgagtcfaat ctgcgtggac caggtcgtgc tcaccgacaa ggacggcaac 420
cgctgcccc tgggttctc cagcgttgcc cccaccaag cctcctctac ggccaaggc 480
gcctcggttc cgccggcgct gccgggggct gtaccgcagc cgttcattca gtag 534
```

<210> 63

<211> 1326

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 63

```
atggagaagc ctgacctcgg cagccgtgga ccagacgtct cgatcctgag ctaccacggc 60
aacaagtctg tcagcggcct gttctggcgg ccgctgtcca gccagcggca gtacatgaag 120
gaagcgcgca agctgggcaa ggaagagcat ctggacatcg ttgccatccg ccattcaccg 180
acggtgatcc aggcgggctt cgtttcgaag tcgcaaggcg cagtcaaggg gatgtactcc 240
ctggcctcgg cgctttcagg ccagttcgac ggcgacttcc tggcctgctg gaaagtgcac 300
gaggaccgct acgcgctggt cgccacgctc gatggcgcgga ttgtccccgg gcaggatctg 360
gtcaccaccc tcgacgaggc ccgggaccgg gtcaggaagc tctctacgcg cggcgtgctg 420
cgaaacgcac aggtcttcgt tcccgaaggg ttcgatttcc ccgtcaaggc cttcgacatc 480
```

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|------|
| gaggaactgc | tcgcgcgcaa | gcgcctgcgg | cgcgactacc | gcctccggca | actcaccttc | 540 |
| ggcttggtccg | ccagggagtg | gacggcagtg | gccctgctcg | gttgcggtgt | aggtgggtcg | 600 |
| ctaaccgcct | actacctatg | gaatgcccac | caggaagagc | tcgccaggca | agccgcgctc | 660 |
| ctcgaggagc | agaggcgctt | cgccgagctg | gcccagaga | acgccagggc | caagcagccg | 720 |
| ctggacctgg | cgtcattgca | gaagccttgg | acgctcatac | ctgacctcga | ggacatgcta | 780 |
| cgcgcttgta | gcaaggcaac | gggggtactg | tcgctgtcga | tccagggctg | gctcttcgaa | 840 |
| tccagcaagt | gcgacggcag | ggtcctggtc | gccacctacc | accgtaccgg | caacagcaca | 900 |
| gcagccgacc | tgacagcggc | cagccagcac | ctgttcgcgg | accgccccgc | cttcgtcatc | 960 |
| gacaacggca | acaccgcggc | cctgaaggtc | gatctgaagg | ttgccatcgg | cagtgatgag | 1020 |
| ccgctactgc | cggcggacga | cgttctgcag | gcgctgacga | gccacctgta | ccgtcaaggg | 1080 |
| gtcgagccca | agctgtcgat | cagccaggag | acaactccgc | ccctccctgg | cgcggaagct | 1140 |
| gcgactgaac | agcaagtggg | gttgcccttc | tggagaagaa | tcaccttcag | cgccagagcc | 1200 |
| cggtctccgg | cagacctgac | cttcaggggg | ctgcccgcgt | ccggtgtccg | catcaccaac | 1260 |
| ctcgaaacca | cgctcaagga | cagccagttg | gactggactg | tcacaggaga | aatctatgcg | 1320 |
| aactga | | | | | | 1326 |

<210> 64

<211> 1623

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 64

| | | | | | | |
|------------|------------|-------------|------------|-------------|------------|------|
| atcgtgtgcg | aagctacggc | agattccgcg | tctacgatcg | cagcgcaggt | gcgcaacacc | 60 |
| cgaccggatc | ggcgcgatac | ggtggtgttc | tccgacaaac | cctgggtcag | cacgaaaccc | 120 |
| ctaagcgttt | cgcacacctt | gtccagtga | tgcacgtga | cgtggcgccc | tgcaggcgca | 180 |
| gcgtcgctgc | aggaggccgc | ccagggaagtc | atcaaccaat | gccacatggc | ggtcagtcac | 240 |
| acgcccgcag | cgctgaaccc | ggccgccttc | gccgtgcaac | ctcagcagcg | cgcgagcaac | 300 |
| gccccgccgc | ccatccaagg | cggccaggac | atggccacca | tgctgtttcc | tgcctccgtc | 360 |
| gccaacggca | tgtcgctcgg | tgccggcggc | agcatggggg | cgagcttcgg | gtcctacggg | 420 |
| ccgcggtctc | tgtacaacat | caaatagga | ggcaaagtca | gcgggttcct | cgatctcatc | 480 |
| gccgcccag | ccggcggtgc | ctggcgctac | aacccaaccg | agaaaagggg | cgagttctac | 540 |
| tacctggaca | ctcggaacct | ccgcatgtac | gccttcgacg | acgtcaacac | ggtggactcc | 600 |
| accgtgcgtt | ccggtatgac | gacggccgcc | ggcatcagcg | gggacggctc | cggatccacc | 660 |
| ggacagaatg | gcagctccgg | catcagcggc | gactccggca | gcaagcagac | caccagctcg | 720 |
| gagctgaaga | catcgatcct | cagcgacatc | gagaacagca | tcaactcgat | gctgacgcgg | 780 |
| agcatgggac | gcatgtcgct | gtcgcggtgc | acgggcaccc | tgaccgtcac | cgaccgtcca | 840 |
| gaagtcctca | accgtgtcca | gcagttgggc | aaccgagaga | acgagagcat | caccaagcag | 900 |
| gtgctgctga | acgtcaacgt | gctctcggtc | gccctgaccg | acaaggatca | actggggatc | 960 |
| gactggaacc | tggctctaaa | gtcgctcaac | aacaagtggg | gcatcggcct | gaagaacacc | 1020 |
| atgccgggca | tcgatcaaa | cgcgatctcc | ggctccgtga | gcatcctgga | taccgccaac | 1080 |
| agcgctggg | caggatccaa | ggccatggtc | caggcgctgg | cccagcaggg | ccgcgtctcg | 1140 |
| accgtccgat | ccccgtccgt | gaccacgctc | aacctccagt | cggcgccgat | ccagatcggc | 1200 |
| cgctacgaca | gctacctggc | ctccagccag | atctccaacg | tcgcccagggt | cggcagtacc | 1260 |
| acctcgctga | tcccggggcg | cgtgaccagc | ggctacaaca | tgagcctgct | gccgttcgtg | 1320 |
| atggaaagcg | gcgagatgct | gctgaagatc | aacatcaaca | tgacctcccg | gccgacgttc | 1380 |
| gaaatgcaga | ccagcgggga | ctccaaagcc | cagttcccga | gctacgacat | acaactgttc | 1440 |
| gaccagaagg | tacgtctgcy | cagcggcgag | accttggtac | tctccggctt | cgaccagacc | 1500 |
| accgaggaca | ccaacaaggt | cggcaccggc | gacgctgggt | tcttcggtct | tggcggcggg | 1560 |
| ctgaccgcga | ataccaagcg | cgaggtcatc | gtggtgctga | tcacccccgt | cgtgctgggc | 1620 |
| tga | | | | | | 1623 |

<210> 65

<211> 1125

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 65

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgaccaggc | agttgaccac | tctcacgctg | tgctgtctgc | tcgccagctg | cacgaccac | 60 |
| aaggctgagc | cggccaggcc | agccttcgac | agcagccgca | atccagacct | gctttctccg | 120 |

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|------|
| gacctgtatc | caaacggtgt | gcagccggag | aaagagcccg | tagtgcgcta | tgggcgctac | 180 |
| accctgggtca | gcacccagcc | tgatgccggt | caacgcgacc | tgatggccca | gatcatcgac | 240 |
| gtaaccatcc | cgtcgagcat | gaacccgagc | gtcaaggacg | ccatgcagta | cgtgatgagc | 300 |
| cgctcgggtt | actcgctgtg | cccggcagac | gccggtcatg | tgaacatcct | ctacaccccg | 360 |
| ccgctgccgg | cagctcagta | caagctcggc | ccgatgaccc | tgcgcaacac | cctccagggtc | 420 |
| ctctccggcc | cagcctggca | ggttaaggtc | gacgaggtcg | cgcggcaggt | ctgcttcgtg | 480 |
| ctgcgcccgg | gctatcaact | tcccccgcg | ccgaggccga | aaccggtcca | gcaactgtat | 540 |
| gcgaagcccg | ctgccccaac | tccgcggcg | gtagcgcaac | cctcctccac | ggagaaagtc | 600 |
| agcacgctgg | agtcgcccac | cgtggtcgcc | tcggtgccga | caccggcgcc | gatcacaacc | 660 |
| agccacgctc | cggccaagaa | gcctgaatcc | accactgtgc | tccccccagc | cgcacccggcc | 720 |
| aaggatggcc | acccctcttc | tcctcccgcg | gcttcggcac | cgaccaagcc | tgcggcctcc | 780 |
| gccgtgaagt | ccacgcccgc | cactccaccc | accgtggctt | ccgccccacc | ggtcaagggtg | 840 |
| ctcacgcccgc | cggaaccgag | ccggccgctg | gcacaggcct | ggtcagccga | gacgggatca | 900 |
| accctgcgcg | acaccttggg | agcttgggca | aagcgcgcac | gctggaccgt | ccgctggggag | 960 |
| ccgcaggatc | tcaactatcc | gatcgaggct | ccactgacct | tccacggctc | cttcgaggac | 1020 |
| gcggtatccg | agctgttccc | cctgtatgac | gctgccgaac | ggcccttcct | ggtgaacgcc | 1080 |
| agccgcccgc | agtcctgat | catcatcaag | gagcgcaaga | actga | | 1125 |

<210> 66

<211> 327

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 66

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ttgagcttta | aatactattg | ggctaaat | ttctggggag | ctttcttctt | tgttttagtc | 60 |
| gcttggaag | gctccgtatt | tccaagcctg | gcatcagtta | accccttggt | agtggctgga | 120 |
| ttcagtaact | tcctgtttcc | tttctcggtg | aggcttggtg | aagacttcgc | tttaaaatat | 180 |
| acggaaaaag | agttctgggt | cacaggtttt | ttctccgaaa | cccctgcaaa | aacaggattg | 240 |
| tatgcagtct | tttatttggc | ttgttatttg | ttttcaattc | ccttggggat | gattttttta | 300 |
| ttctataaat | acggaaaggc | ctcgtag | | | | 327 |

<210> 67

<211> 1497

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 67

| | | | | | | |
|------------|-------------|------------|-------------|------------|------------|------|
| atgtccaatg | acaacgaagt | acctggttcc | atggttattg | tcgcacaagg | tccagacgat | 60 |
| caatacgcac | acgaggttcc | ccctatcgat | agcgcggccg | ttgccgggaa | tatgtttggc | 120 |
| gacttgattc | aaagagacat | atatctacag | aaaaacattt | attatccagt | ccgatccatt | 180 |
| gttgaacaag | gaacaaaaga | aaagaaggag | atcaacaaga | aagtatctga | tcaagtcgat | 240 |
| ggcttgctaa | agcagatcac | tcaaggaaaa | agggaggcca | caaggcaaga | gcgagtcgat | 300 |
| gtcatgtcgg | cagtcctgca | caagatggaa | tctgatcttg | aaggatacaa | aaagaccttt | 360 |
| accaaaggcc | cattcattga | ctacgaaaag | cagtcaagcc | tctccatcta | tgaggccttg | 420 |
| gtcaagatct | gggagaagaa | ctcttgggaa | gaaagaaaaga | agtacccttt | tcagcagctt | 480 |
| gttagagatg | aactggagcg | ggcggttgcc | tactacaaac | aagattcact | ctctgaagcg | 540 |
| gtaaaagtgc | taagacagga | gctcaacaag | caaaaagcgc | taaaggaaaa | agaggacctc | 600 |
| tctcaactgg | agcgggacta | caaaaccaga | aaggcgaatc | tcgagatgaa | agtacaatcc | 660 |
| gagcttgatc | aagcgggaag | tgctttgcct | ccattggtca | gtccaacgcc | agagcaatgg | 720 |
| cttgaacgtg | ccacaagact | ggttacgcaa | gcaattgctg | ataaaaagca | gctgcagacc | 780 |
| acaaacaata | ctcttatcaa | gaatgcccca | acccctctag | aaaagcagaa | agccatctac | 840 |
| aatggtgagc | tacttggtga | tgagatagcc | agtctacaga | cccgttaga | taagctgaac | 900 |
| gccgaaacga | cacgacgcag | gacagaagca | gaacgcaagg | cggccgagga | acaagcggtg | 960 |
| caagatgctg | ttaaattttac | tgccgacttt | tataagggaag | taactgagaa | atttggcgca | 1020 |
| cgaacatcag | agatggcgca | ccaactggcc | gaaggcgcca | gggggaaaaa | tatcaggagt | 1080 |
| tcggcggaag | caatcaattc | gtttgaaaaa | cacaaggatg | cgttaataaa | aaaacttagc | 1140 |
| cttaagata | ggcaagccat | tgccaaagcc | tttgattctc | tagacaagca | gatgatggcg | 1200 |
| aagagccttg | agaaattttag | caaaggcttt | ggagttgtag | gcaaagctat | tgacgccgcc | 1260 |
| agcctgtacc | aagagttcaa | gatatctacg | gaaaccgggg | actggaaacc | attctttgta | 1320 |

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|------|
| aaagttgaaa | cactagctgc | tgggtgcggcc | gccagttggc | ttgtgggtat | tgcatttgcc | 1380 |
| acggcaacgg | ccactcctat | aggcatcctg | gggttcgcac | tggtaatggc | agttaccggg | 1440 |
| gcatgattg | acgaaggcct | tctagaaaaa | gcaaacaacc | ttgtaatgtc | catttaa | 1497 |

<210> 68

<211> 1974

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 68

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|------|
| atgaaccgtc | cacgcctggt | taatcgtaac | tccgcgacac | cttcgacgct | tctgcagcgg | 60 |
| gctatcttcg | acggctacga | cttcggcttg | aagatcccct | acatcgacgg | cagcaatcgc | 120 |
| gcgctgctgg | agctgtccgg | cttcttcatac | agcgcccggg | agcatccggt | gcaccgctac | 180 |
| tggcgggtcc | ccaaaggcaa | gctgctgcct | gaactggaca | ctctgtacaa | ccgtctcgcc | 240 |
| gagctagctg | gaggccttca | ctcccagtc | tggcgggagt | tcagctcctt | ggtcgaatcc | 300 |
| gcgcaggcct | cgcttgaccg | acaggccttc | acctggggga | tgctgctgcg | catcgcgccc | 360 |
| ctggccgagg | gcggcgctct | actgtcaggc | gagttccatc | ctggtgttgt | ggcgggtggc | 420 |
| cggcggatgc | gcgggggtatt | cctgcgcccc | tcgagttcct | ggcgcatcga | caccactccc | 480 |
| gagctgctcc | gaagcaacct | gattctggag | cttggcctcg | ccgaggaaca | attcgagatt | 540 |
| ctggatactg | tccaggagct | gctcagcgac | ggcagcttcg | cgccgtcgac | cgagctgccc | 600 |
| agcatgagca | tcggcgggtc | acagcaggaa | ccggcagcgc | catccctgga | ggacgagtc | 660 |
| gcctctgaca | tctacctcgc | cgcggtgccc | gagatcgagc | gcaccgagta | cagctcggct | 720 |
| gatatcgagg | cggcgcttca | gggctactct | ctactggccc | accagcctga | cggcacgcgt | 780 |
| catctgctgc | agagaaccag | cgcttatttg | gccgacgaca | tgggattggg | caagacccgc | 840 |
| caggcgggtc | tcgcccgttc | gatccgcgcg | gcgggcagac | caatcctggt | catcaccctg | 900 |
| gctaccctgc | tgatcaattg | gcagcgggag | atccaggagg | tctatccctc | ggccaccgtg | 960 |
| gccatccagc | aggacacccc | agaggcgag | tggatcctcg | tcaactacga | gcagttgagc | 1020 |
| cccttcgtcg | ccaacgcttc | gcgcttcgcc | gtgatggtca | tcgacgaggc | gcagcggatg | 1080 |
| aaggaaccga | cggcgcaatg | cacgcggcac | ggtttcgaca | ttgccgcca | agtgccgaac | 1140 |
| cgctacctgc | ttaccggcac | gccgggtgctc | aaccgcgaga | cagagctgca | caccctgctg | 1200 |
| cgctctcag | gccaccccat | cggccaaactg | ccgtgaaag | agttctgcga | ccgtttcgcc | 1260 |
| ggcaaccggg | agttccgcc | gagctcgcg | gcggagctgg | gtgactggat | gctgcgcagg | 1320 |
| cgcaaagatg | tgctgccag | cctcaagggc | aagcagcggc | agttgctgaa | ggtggccctc | 1380 |
| tccaccgagg | aacgcgaca | atagcagtg | ctgcgcctcg | aggaccgacc | ggtcttcgcg | 1440 |
| cgactcggcg | cgctcgggcg | ttacctggaa | acggtgaaag | ttcgcggtgc | gatggacctg | 1500 |
| ttgagcgagc | tcgacgcaga | ggacaagggtg | atcctgttct | gcgagttcaa | gccgaccgtg | 1560 |
| gctgcgctga | aggaactctg | cgagcaggcc | ggacacggct | gcgtcacgct | ggtgggcaat | 1620 |
| gactcgctca | ccaagcggca | gaaggcgata | gatcgcttcc | agcaggatcc | cgactgccga | 1680 |
| gtgttcatct | gcactacggc | ggccgcaggg | acgggcaaca | acctcactgc | ggcgaactac | 1740 |
| gtgtttttcc | tcggcctgcc | ctggactccc | ggtcagcagg | aacaagccga | agaccgcgcg | 1800 |
| taccgaaacg | gccagctccg | catggtcgtg | gtgaaaatcc | caactggtcga | ggccacgatc | 1860 |
| gacgagcaac | tgtggcaact | gctcaacgcg | aaacgcgagg | ttgccaggga | cctcatcgag | 1920 |
| cccagcgagg | tcgacggaaa | ccgcgcgctt | ttagccgcaa | gcctaactgg | ataa | 1974 |

<210> 69

<211> 1890

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 69

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| gtggcacctc | tcgacaacgc | ccccctagc | gggcgcgtac | aggatccatc | cctggcccgc | 60 |
| tacagcgagc | ggcagctcgc | cgtcgccaac | acctgggcaa | cacatttctc | cctcgagggg | 120 |
| acagctcgaa | ccaagttcat | ccgtcactac | ctgcgcagca | catctacgac | cagggtgctg | 180 |
| tgcatacacg | tcgctgctga | caacgggtgtg | cgttacacca | tcatgcgtgc | agggccgcta | 240 |
| ctccaggtat | tcgacgggtca | actaattggg | gcgtgggagt | gcaagcctgc | ccatcgatat | 300 |
| ccggcaagca | cgccgtctcg | agcagggggc | ttgaagctgc | tacagcgctt | tcaaaagttc | 360 |
| gacgacgcag | ttgctgtact | cagctcatac | acaaagcgag | cgcacgacct | agccacacag | 420 |
| atggccaggg | acgatctcgg | acttcaacat | cgctcgtgt | atccgagcca | cagcaacaag | 480 |
| cgctactacg | cgccaaggca | ccagttctac | ttgaagcaga | tcggagcggt | cttgcgaacc | 540 |

| | | | | | | |
|-------------|------------|------------|------------|-------------|-------------|------|
| ttcagacagg | tcttgacca | agacctgctg | ttcgccatcc | gctcggttcg | gtgcctctcg | 600 |
| ccccagctct | acaactggct | ggctcaaggc | gaccaggtgc | gccggctgca | aatgctgaag | 660 |
| gctcagccgg | tcttgacgcc | gctactggtg | gattgcgagg | agggagtctg | gcctcacacg | 720 |
| acgaccaacg | acaacggcga | gagcatccgc | cattaccttc | cttgccccctt | tccccagctt | 780 |
| gacagtgaac | gaccgcaggc | cgccgccatg | ccatgcgact | tgtacctcga | tatggggccgt | 840 |
| attcttgggc | aggtcgcnqa | cgaaggaatt | tcggtcatca | actttttcgc | ctggctattt | 900 |
| caggcgccgc | gggcctcgat | tcgatttctt | agtcacgtca | gtcccggccg | tgcgggagga | 960 |
| gctctcttcc | atcgaaaacg | ggaaggccga | cattcgggat | ggcatgctct | cctactggcg | 1020 |
| gcatcgctag | gtaaccggcg | gccgatcact | cgcgctcaat | ggacagcatt | ctatgccgcc | 1080 |
| tacaatgcga | tcccttggca | agttcacaac | gccaagcccg | actacaaccg | tctcttcaac | 1140 |
| ggctgcccgt | cggattggca | ggatccggca | tggcttgcaa | tactgcacg | gctgagagac | 1200 |
| atcaaggagt | tctataccgc | cctcgaccag | gggaactcac | aggttggttcg | gcaggcgcg | 1260 |
| agcgccctga | aagcgtatct | gggtcattgt | acctaccgac | aagctggcaa | cctgggtggac | 1320 |
| gactaccacc | aggtccagag | ggagctgcgt | gccgcagtgc | agagcagcct | gcccgatctg | 1380 |
| gtcgacaccg | acgagtacac | cacctgggag | ggaatgctgt | ctgtcggtct | tatcgattgc | 1440 |
| cctaattggac | tgcagatcgt | cgagctccgc | tgtcctgccc | acctatatgc | cgaacatatc | 1500 |
| gctctggcac | attgcatcga | tagctacgac | caggccgcct | accgaggaga | ctgccgactg | 1560 |
| ctctcagtag | gtgaggctgg | tcgtccgctg | gcctctgccc | aattggagct | caggcgtagg | 1620 |
| catggcgagc | ctataggtag | gccttgaggt | cccaagcacc | tttccacggt | gcaactgcgc | 1680 |
| gaattcgata | atgcccccg | gccgaccgac | tcgcctgccc | gccaggcata | ccgctgggtc | 1740 |
| atggaacgaa | ttcgctctgg | agccatagcg | acgaacctga | actggcccga | catgaccgtc | 1800 |
| cacatgacgc | gcttcgccaa | tggctcgctg | aaggcgggcc | tcgccgaagc | cacggcggaag | 1860 |
| tggctgctca | ctcagttgga | agaccgatga | | | | 1890 |

<210> 70

<211> 471

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 70

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| atgcgaaaag | agaatatatc | tgccgaaatc | acagagcgag | cttttgattt | tttctattgg | 60 |
| ttctcgcgat | ttgagttcag | cctcaaagag | aatggctact | taaaaatta | caaacctgga | 120 |
| gctagggcag | agccgggatg | ggaaaatttt | gtacaaaacc | attctgacaa | atactctctt | 180 |
| tcccaatcag | ccacagcact | aatcgagcag | agtcacagagc | aacaaatagt | cctgcccggg | 240 |
| agagagctgg | gttggcgctc | ggttaaatta | gatgaggaca | aaagcgactt | agctagagtc | 300 |
| gctcgcttac | ttaagaccgt | gcgaaacaat | ctatttcacg | gaggcaagca | tgggtggtgc | 360 |
| aactgggaca | accagcgag | gacaatacat | cttattcttt | taagtaaagc | tatccttgac | 420 |
| gagtttgctg | cactaggaga | ctttgaggct | gactacaaga | gaatttactg | a | 471 |

<210> 71

<211> 1926

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 71

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| atgcacatcg | taatcattga | agccccgggc | aagctgaaaa | agctgaggtc | ccttctcccc | 60 |
| tcgattcgctc | ccgacgtgac | ctggcagggtc | gaggcgacag | ccggccacat | cagagacctt | 120 |
| cccgttcacg | ggcaggatcc | gcagatgctc | accgtcgccg | tgggccagga | tttcaaaccg | 180 |
| cactaccaga | tctctcggg | caaggaaaaa | accgtcgcac | ggctgaagga | gctgcggcag | 240 |
| aaagccgtgg | aaatctacgt | cgcatcggac | ccggtcgcgc | aaggcgaaaag | cattggctgg | 300 |
| cacatcctcc | aagctgccc | gatcaagaac | tacaagcgcg | ttgccttcaa | agaaatcaca | 360 |
| aagtcattgca | tcaccgcccga | actcagctcg | ccgcgtcgcc | tggacctccc | gaaggctcgcc | 420 |
| tcgcagggaat | gccgtcgcg | catcgatcgc | ctggtgggg | atctggtcac | gccagagttg | 480 |
| cggcgcggtga | tgggtaggcc | gaccaccgcc | gggcgcgtgc | agtccgtcgc | ggtgtacctg | 540 |
| gtggtcctgc | gagagcggga | gatccgcgcc | ttcacagcaa | tcaagcactt | cgggggtggaa | 600 |
| ctgaccttcg | tttcgcccag | cgacggccgt | acctggacgg | cggaatggga | tccagtggcc | 660 |
| gtggtttgcca | gcgaggagtt | cccgtatgtc | caggatcgtc | aactcgcaga | actgggtggg | 720 |
| gctatacgta | atgtcatcgt | cgagacctgc | attgatagcg | aagaaaccga | tgcgcctccg | 780 |
| gcaccgttca | tctcctctc | gctccagatg | gccgcccggga | atgcgctgaa | gtggtcacc | 840 |

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|------|
| gacaagacga | tgaaggtcgc | ccagcggctg | tatgaacagg | ggctcatcac | ctaccaccgg | 900 |
| acggacaacc | ccaatatctc | gaaggactcg | atgccggata | tccgtgctgt | cgccaaagcc | 960 |
| ttggggctga | agtgtgttga | gcaacagcgg | atgttcaaag | cggaccaaga | cgcccaggaa | 1020 |
| ggccaccccg | ccatcacccc | taccgactgg | atggccgctg | ccgcccgtga | aactgctgat | 1080 |
| gagcaggcgc | tgtaccagct | cattcagagtc | cgcgcgcttg | ccagtcagat | cgaagctgcc | 1140 |
| gtgtacgcag | tgagaaccat | caccctcctg | ggcgctcgcc | ccgacaaaaa | gccgctgcgc | 1200 |
| ttcggcgcca | aagggaagct | gttgaacgtg | cctggctgga | gaaaactgct | gcagggtgat | 1260 |
| gacgccgagg | agcagaagaa | cgaaacgcct | tcaaaccoca | tcccgatccc | ggcgctggag | 1320 |
| ccacgccaga | tactcaaggt | ctacagcggc | gaggtcctgg | agaagaaaac | caccctccc | 1380 |
| aagcgattca | ccgacgccag | cctggtgggc | gagatgaagc | gccgcgggat | tggctcgcca | 1440 |
| tcctcctacg | cctcgatcgt | gaagaacatc | atcgacaagg | gccaggtgca | gatgaagggg | 1500 |
| cgaagcctga | tccccggcga | gctgggagag | gccaccatcg | cgctcctgga | gcacaacttc | 1560 |
| agcttcctca | gcctcgactt | cacccgcaac | ctcgaggctg | ccttggaccg | gatcgccaac | 1620 |
| agcgaggaca | cctacatgaa | cgtggtccag | cagttctacc | agctactaca | gacagagctg | 1680 |
| cagacactcc | gcgcgctccc | cagcgcacag | gacgaaccac | gcgcaagctc | caccgccagt | 1740 |
| atctcctcgg | cgccgaccag | cgacttcctt | tgcggcaagt | gcggtctgcc | cctggttcac | 1800 |
| cgcaagaaag | ccggcaaagg | cggcttcgac | ttctgggggt | gcagcggcta | tcgaacaaca | 1860 |
| gggtgcaagg | ttagctaccc | caccaagagc | ggcgggcctg | acttcgacaa | cccgcgcggg | 1920 |
| ctatag | | | | | | 1926 |

<210> 72

<211> 234

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 72

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| atggatcaaa | gcctttgcac | atgcatgcca | acgccaatcg | tcaaccccaa | ggagctgcga | 60 |
| ctgtgccaca | tgtagtcgg | tagaactttc | ccgataacat | tgatcgcagg | cgaccattgg | 120 |
| ttgagctatg | acggcagcgc | ctgggtgggtc | gatgcggatg | agcccgcgac | ggaggacgag | 180 |
| gtggcggctc | tgtaggtcaa | ggctggtggt | gtcactacgt | gctggtgcgg | atag | 234 |

<210> 73

<211> 246

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 73

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gtggcaaggg | cttccgaatc | ggaaatctcg | accagtacga | ggtgcagtgt | gtcaaagaga | 60 |
| gcgaccgata | ccgacaagct | ggacagacga | cacttcaacg | atccccaccg | gactgtacgg | 120 |
| gctattggtg | ctgaggccgc | gcggaaaggg | ctacgggtgt | tcgactgccc | ctacagtcac | 180 |
| cctgcgatgc | ggcgctcctg | gttgaaggg | tttgcccagg | agcagcaaca | gcagctcgac | 240 |
| ttctga | | | | | | 246 |

<210> 74

<211> 470

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 74

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atggctaccc | ccgtcttctg | ggaagccaac | attggctcgg | cgccggagca | ccgcagcttc | 60 |
| cccaacggca | acaatcccc | gcggcagttg | ctgcgactga | acgtgatgtt | cgacaactcg | 120 |
| attcccgatg | gccaaaggtg | ctacaaggat | cgcgccggct | tctggtgcag | cgtcgaatgg | 180 |
| tggcatcagg | atgccagcgc | cttcgccgaa | ctgttcacga | aaggtatgcg | cgtcaaggtc | 240 |
| gaaggcaggg | ccattatgga | ccgctggccg | gacaaagagt | caggcgaaga | agtccaggcg | 300 |
| ctgaaggtcg | aagcctcgcg | catttccatc | cttccgcacg | gcctggccga | ggtcaccctg | 360 |
| ttgccaaccc | agcatcaaca | gtctcggaac | gtcccgcagc | aacctgctca | gcaagatgcg | 420 |
| caatcgcagc | aggactacga | cagcgccttc | gacgacgaca | tccccatgta | | 470 |

<210> 75

<211> 534
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 75
 atgcggcagc tcgataagga ccagcaaggc gctctggaac aaagtgcctt ccgcccactg 60
 caacaaactg ccttccaggc gctgcaacac agtgcctcac taaaaggcct tttaaagcct 120
 tttaaaggta ataggagct ggcccagttg gcggaacagt gcgaagccat ggagcagggg 180
 ttgcttgaac ttgcccaggg actgctggcc caggttcgtc gccaccctt cactctactg 240
 cccacccgac tcatcgagca gcgcacatcc gccgcacaa cttttctccg ctggcagcac 300
 attgcatccc ggcggtatgg cgctcggttg tggacggaaa tgctgcgcca ggacaagacc 360
 ccggaatacc tgctgcaaga cctctacgag atggagctgc agcgcatcac cctcaacatg 420
 cagatcagcc tgatccactc catcggaag caggccgccc agtgcgcgga aaagatgggc 480
 caggccgagg ccgagttcat gggccgactg cagcagagca ccaaccacca ctga 534

<210> 76
 <211> 729
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 76
 atggctgaaa cccatcggct tcagatcggc tctctccgca gcgatgtcgc tctgacgctt 60
 cacacctatc acgccgcccg catctggacc ggccggcaga agtcggatgc caagcacagc 120
 atcctcggcc tctccggtt ctgcgcatac gtgaatcgca tgcaccgcgg ggcagcacag 180
 gacgatccgt actccgactg gtggctggtt cagatcgaag agaaagtcga gagctgcaa 240
 gccgcaactg aggccatcga ccagcgactg gatgacgtca tggccaagct gcccgcgacc 300
 ctcgatatct ccgagaacct gtccgttaca ccggtcaagg tcccggtgtt catctccaac 360
 cctctcggct tcaaggcagt ctatctcctg accaactacg acgaactcgc ccgtcgaatc 420
 ctgctggccc agcacgtcgg gctggtcggg ccgcccgcga tggaggtctg gctcgacgaa 480
 ggtgcgtcgg tgctgcgaag cctgtttggt ctggcccaga gctaccagtt ctcgggcgcc 540
 actcgcgacg acttcgccgc aaacaatgct cgcgccgaag ccgcgcggaa gatgtacgag 600
 aagttcggcg agatcccgcg ggacatcctg gagggcactc gacgctcgaa cttcgtctccg 660
 ccgatcaccg ggggcccgtc tgacggtgat gccgatgatg acgctgaccg tgtcgaactc 720
 gaggactga 729

<210> 77
 <211> 240
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 77
 atgttcttga gcatggcccc tttctttttg gtcgttctcg ttctttctgc actttttaca 60
 gatgcgtgga acgaccgaga actcaggctg ttgttaatgc tgatcgtgtt cgggtattca 120
 gtaaccgtgt tgaccattac ggttgagatg tatcgctttg aaatggcgga aaaagcgatg 180
 tggggagctt tatgcaacaa agccaactac atgaactgcc aaccagatta ccaacggtag 240

<210> 78
 <211> 276
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 78
 atgagaaagt ctcggtcggg cgctcgtgtt tttggtgatg cggcccgcac cactctccca 60
 ggtcctgacc tccgcgcgcg cggcgagctg ggtgattcca ctggaatcac tccaccagga 120
 gccgacctcc gcgcgcgcgg cgagctgggt gattccactg gaatcactct gccagggatc 180
 cacttcggta tcggcggcaa gatgggtgtt tcgggccgaa acacttcgcc aaagcgaggc 240
 atcaccactc acgaggaact caaacaatgt tcttga 276

<210> 79
 <211> 1326
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 79
 atgaggctgt cgcgctttcc catttcgaca ctgctggact cggcctcggg gcatctcgag 60
 gccattttgt ataagaagcg gcttgctgcc gaaagcggcg aaccgctggc tcaacaatat 120
 tccggcatca ttttcagcgg caatcctcat gaaaccgttc cacggcgccct cctcctggat 180
 aagcgtctta ctccgctgga gcggaactgc tggcaagttt tccgcttgct catcaacgac 240
 gacggactga ccgcgttccc gacatacgag caactgcgcc cctatctcgg tatgcagccg 300
 ggcaagatcg cctcgcgcga aaccatcgcc aaggcactca cggtccttcg tctgacccgc 360
 tggctcagcc tcggccgacg cctgcgcaac gacctcaacg gacaggtcca gggcaacggt 420
 tacatccttc acgacgagcc tgtctctcca gccgaagcct tggagctgga caccgactac 480
 atgcagttgc tgagccaatc caccggtcac ggcaaccgag ccatacgca aatcgggcag 540
 atcatctggc gggagttcag ggatgatccg gacgtgggtc gccgcctccc taccatctg 600
 gagaagctcg agggacgctt gaaccaccag caatgggcta tcgatagtca gtcgaagcg 660
 gatccagcgg cagagttcgg catccgaact ctgtcggatt tacctcattc caccgcaggt 720
 tcggatgccg aactcagtga aatcagcggc aagcaatgcy ctctaccgct gagttcggat 780
 accgaacccc gacagaatcc gccgagtacg cccttggttc ggatgccgaa ctcatatagt 840
 acgtatacat acaacaaga ttctgtatgt aaaaagccag tacaaccgcy agcacgcgag 900
 gaagcccatc cgaactggca ggatctcctg cagcactgg aggccgagca acggatccag 960
 gcagtaagcg cgctcagacg ggtgtccgag gatcttcggc taccatcat cgagcagtg 1020
 cagcaccgtt gtgccggcgg aacagtcagc aatccgttcg gctacctcat gacgctcatc 1080
 cagcgtgcag tccagggcaa gttcaacgct tcttggtcgc cggaagaacc ggctgagcga 1140
 accatccccg caacggaacg cccattcgt gctccggcac catcaagccc catagcgcc 1200
 acacagcctc aggtccagcc ccgggggat acccggacag ggagcgaggt cctcagccgg 1260
 ctcaaggacc tcattcggcc caggcacgga tcgagcgtgc catccgagcg gggatgatgat 1320
 tcatga 1326

<210> 80
 <211> 768
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 80
 atgtcgaagt cgacgatcaa tgaagcggtc ctgacgcagg tgctcaacca cctgcgcaac 60
 ggccagctca ggcgttggtc cgagatgggg ctgcggccgg agattctggc tcagctccaa 120
 cagcctgccc tcatgagcat cctgaccaat acccgggttt cctgggtaga tgcagagtg 180
 aacatcgacg tcatggagaa aatcctggcc acagccgagc gcagcgcgca ggaagacctg 240
 cagatcgaac gcgcactgaa gctgggagcc accacaacga tgatccagag ctttttcggt 300
 ctgtcgcggg aggacaccgc caccaagcgc ttgatgtcgg agatccacc gcgcgcggt 360
 cgctggcggc agctcgatga acagatcgag cgccagatat ggttccgctg ggagcacctg 420
 atgcaggaaa atcaggtccg ccttgaagac agcatggagt tgctggacat cgcgatgatc 480
 ctacagagg aaatcaacgc cggaatcgaa caagacagtc cagaattcat cagcctcgcc 540
 attgtttggt ctctcatcca gagctggttg aaagacgggc tctatccgctc tggcaaatcg 600
 agccagagcc aggcgggcct gcaaaagtcc caatccactc tttacctcgc tagcgtcagc 660
 tcacacctgc cccactctgc cccatccgca acaacgcagg tgaacgctga gacagaacgt 720
 caacaactac tgaacctggt tcagtcggaa ggcgacacag caccatga 768

<210> 81
 <211> 1740
 <212> DNA
 <213> Pseudomonas aeruginosa

<400> 81
 atgagtatgg ccaagatcaa cccgcaagat ctgaaagacc ggctacttgc ccctggtttt 60
 accgcaccgc ccaagttctt ggagcagttg tcggaccgca tcagcgacac gcccatgagg 120
 ctgacactcc acgacgtcct cccctggcac gataaccccc ggaccactcg aaacccgaaa 180

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|------|
| tacgatgagc | tgaaagaatc | gatccgacat | cgaggcctcg | atacgccgcc | accagtgact | 240 |
| cgacgccctg | gagaggacaa | ataccgcatt | cgcaacggcg | gaaacactcg | cctggaaatt | 300 |
| ctcaacgacc | tctacaaaga | gaccggagac | gagcgctatt | tcagcttcga | ctgcctgttc | 360 |
| aagccctggg | acaagcagcg | cggcgaaatc | atcgcgctga | ccggtcattt | ggccgagaac | 420 |
| gatctgaagg | gcgacctcaa | gttcatcgag | cgcgcggttg | gggtgcagaa | ggcgaaattt | 480 |
| ctttacgaac | aagagaacgg | cggtgaaagr | atttcccagc | gcgagttggc | acgtcggcta | 540 |
| aaagcggacg | gctaccctgt | atctcaatcc | catatcagta | agatgttaga | cactattgag | 600 |
| gtattggcgc | cggcgattcc | tgtgatgctg | tattcagggc | tcggtaaacc | gcaaatcgag | 660 |
| aaactcctgt | cactcagaaa | gtcggcatcc | tcctgctggg | cacgtctata | cgctggtgaa | 720 |
| ggggttgact | tcgaaatgct | gttccaggac | accctggcaa | tcttcgacag | tagccctgac | 780 |
| gaattcattt | tcgagcgttt | ccaggacgaa | ctcatcgacc | aatgaagcg | ccccctgggc | 840 |
| ctgcgttatg | accaaatacct | gctcgagatt | accaacgggc | agcaggagca | acgccgcggc | 900 |
| actctggctg | acctgcccac | acctgcccga | ccacctcaac | tcccaccaat | tgggcaggaa | 960 |
| aaccctgctg | cgctgcttac | tggacaagca | caaacacaga | gccccgcgcg | agatccccaa | 1020 |
| acgtccagga | caaggagcaa | cccgggtaat | cccctcccc | cgccggctcc | gccaccacct | 1080 |
| gtccaacaaa | agcaattgcc | cgatgaggag | cgctgcggcg | tcttggcagg | ccatatcgtg | 1140 |
| agcccgggat | cgactaagat | ccagcagact | cgccaacggc | tggccggcct | cgagggggaa | 1200 |
| catctacctg | tcttcgatga | aacagctctg | caggcaatcc | cagtgcaagt | cggtggcctg | 1260 |
| cacccgatca | ccgatctctg | gtacatcgag | cggtcgatcg | ataccccga | gatcctgcga | 1320 |
| cagcacatcg | ctgatctggc | tgaagagatc | gctctgcatg | tcggcgcccc | aggcgagatc | 1380 |
| gtcaggattc | agggcggtgt | gggttacacg | tatcgcgagc | ccaatgaaga | ccatgagatt | 1440 |
| actgattcag | cgctgcacct | catgacgctg | cttcaagcgg | tcagcgggca | ggtccaagtc | 1500 |
| gttctgaaca | ctcacgatca | acagacctgc | cgcgatgcac | tgggtgaatt | ccagttctca | 1560 |
| gctggcctcg | ctcagttgct | gctgggcca | cccaccacaa | gtgacaagcc | atcctgccag | 1620 |
| gcaggccgtc | tcaatgacga | agccctgggtg | aaactgttcc | ggatcattcg | tcttgcccga | 1680 |
| cgcttggttg | accttgagct | gccgcgggcc | gcctccgagc | aagcagctac | tgaccagtga | 1740 |

<210> 82

<211> 255

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 82

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgaccatgg | cccagaaaac | cgaagataag | ttcgttgtcc | gtatgccctt | gggcttgccg | 60 |
| gatcagctaa | agcaaaaagc | cgcgataaac | caccgttcgg | ccaacagcga | gatcgtctac | 120 |
| cgactggagc | gcagcaacgc | gctcgaagaa | gaactcgcgc | gagcaaaccg | aatggctgac | 180 |
| gaactcttcg | ccaagaacca | gcgcctgcag | gctgagctgg | cggcggcgaa | cacgcctcag | 240 |
| gtggcggagg | catga | | | | | 255 |

<210> 83

<211> 1017

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 83

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgcctatca | aacacgccat | cgtccacctg | atcgagaaga | agcccgacgg | caccccggcc | 60 |
| gtgctccacg | cgcgcgacgc | cgagctgggc | gactcccagg | ccatcgagaa | cctgctggcc | 120 |
| gacctcaacg | aaagctacaa | cgccaagaac | aaggcctggg | gcttcttcca | ggcgaggtcc | 180 |
| ggggcctacc | cgttcagcgg | ctggctcggc | gagtacctgg | aggcgacccg | cgacttcgtc | 240 |
| ggcttcagcc | gcgaagcgg | cgagcacctg | caaaagctga | tggaggagtc | caatctcttc | 300 |
| accggcggcc | acgtcctggt | cgccactac | cagcaaggca | tgaccgacta | cctggcgatc | 360 |
| gccctgctgc | accacagcga | aggcgtggcg | gtgaacgagt | cgctggaggt | caccccgctc | 420 |
| cgccacctgg | acctcggcc | gttgacactg | gccgcgcgga | tcaacatttc | cgaatggcgc | 480 |
| aacaacaagc | agtcgaagca | gtacatctcg | ttcatcaagg | gcaagggcgg | gaggaaggtc | 540 |
| tccgactatt | tccgcgactt | catcggtcgc | caggaaaggg | tggattcgcc | gagcgagacg | 600 |
| cgcaccctgc | tgaagcctt | cagcgatttc | gtggaaagcg | aggacatggc | cgaggaacag | 660 |
| gcccgcgaga | agaccgagac | gctggtcgac | tacgccacct | cgcaggcgcg | catcggcgag | 720 |
| ccgatgacct | tcgacgcgct | ttcggaactg | atggacgacc | agcaaccgcg | ggcgttctac | 780 |

gactacatcc gtaacaagga ctacggcctg tcgcccggaaa tcccggcgga caagcgcacc 840
 ctcaaccagt tccgcccgtt caccggccgc gccgaaggcc tgatgatcag cttcgaggcg 900
 cacctgctgg gctccaggat cgagtacgac gaggagcgcg acacgctgca gatcagcagc 960
 cccccactc aactccgcga ccagctcaag cggcgcaagg cccaaattgg agaataga 1017

<210> 84

<211> 234

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 84

atgcgtagtt tccttcgcgg cgcccgggaa agcgttcgcc ggctgggtggc cttcgctcaa 60
 gcagaaggct ggagcgtcga ccgctccgca ggcggccact tgaagctcag caagatcggc 120
 tgccgctcga tcttcatttc ttccacgcca agcgacgcac gcggcgagct caatgcccgc 180
 gccctgctcc gtcgagccga caggcagcgt tccctgaacc aggagtcttt ctga 234

<210> 85

<211> 495

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 85

atgcctgacg tcacagccta ccggccgctc gagcacttcc agaaagtcga gctgatgctt 60
 gagctcaagt tgctgaagg tccttcgtgg atctgtctga actgcggcta tcacctggat 120
 ggcagcggcg cacagccctg ccctgactgc ggaaagtcgc gctactggac cagcggttgg 180
 agtgtaggtc gtggccatcg cttctcggca gcaagggaag agtgggaaaa ccgcctcagg 240
 acacggtcgc ggtcacctgt cgcgtcaacg gcaccagtag caactgacga cgtatgcact 300
 caactgcgca cagaggtccg catgctgcgt tccgcgcatg acgacctggc ctgcagccgg 360
 cagagcgatc gtcgcagcct tcaggcgctg gtgaaacgtc tcctggatgc cgccgccacc 420
 gatagccttc cccgctccct tgcagagatg gagacctggc tgcagctcaa cagcgaggag 480
 accacgaatg cgtag 495

<210> 86

<211> 258

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 86

atgaaggcgt cccagaccta tcagtgcacg gtcaagttcg atggcgccgg tttctggacc 60
 aataccattc agaagcagcg tgcgacctgc acctggagcg acaagggtggc agcctcccgc 120
 cttgccgaac gactgtttgg cgaggacaac gcatacatca cccgtatgcc ggtacaggca 180
 ggcgaccacg aaaagcgcat cgagagccgc tggcgctgt cctgtagaaa tcccaaggag 240
 gtagcgcgcg atgcctga 258

<210> 87

<211> 528

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 87

atgaacactg aagcccgtt tccgagtatc cagcctcgg ccgcgttcac cgactcggca 60
 gtgggtcatg ccaatcacgt tggggtcaac cccatcgagc tggacgccct cagccaagtg 120
 atctcgcgcc tttcgcggga cgagagcacg gtcgcaccca gttcgatgga gcgagagctt 180
 cgtgagctgg aggaactggg gtacatcgaa atctcgacca cccaggccgg gactctgggt 240
 gtcactacgc gcgctccggg gcaattgctt tcggcttact tctggtcggg atggatcccg 300
 cgacacctgt tcagctgctc gctgaaagtg agcctggtgc cgcacctctg ctgcggcact 360
 caggactccc agcacctcac cgccgtgttc cgcattgcag gcagcaagga cgccgcgcgc 420
 gagttcctgc atcagttggc caacaactat cccgggcatg agccggagtt gcccgaaactg 480
 gtggccgttc aggtcggatg tgcactcagc aaggaggccg agtcatga 528

<210> 88
 <211> 1363
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 88
 gtttctgcag atcagccggg aggactcgaa gtgagtgttc tggaacttac gccgccgcac 60
 tccgtcgagg cggagcaagg ggtactcggc ggctgatgc tggacaacgc ggcattggag 120
 attgtcggcg atcagttgca gaaggaggac ttcttccggc atgagcatcg gctgatcttc 180
 accgccatca gcgagttggc cgcgaaggat gctccgtttg atgtcgtgac tgtgtcggaa 240
 gcgatcgaag accttccaga agctggcggg ctggcctacc tcggccagct cgccgacaac 300
 acgccctccg tggccaatat cgaggcttac gcgcagatcg ttgcgcatcg ggcacacctg 360
 cggcagctga tgtctctcgg gcaccactgc accaggaccg cctcgaacca ccaggcaaatt 420
 ccctctgagg ttcaggagga gattgagcag aagctgttcg gcccttggcc aggaccacca 480
 caacgccgat ttgctcgata tcaacaagag tctcacgaag atcgctcgaca ccatcgatta 540
 ccgcttcaac aacaacgtga cggtaacggg ggtcccgaact ggcctgaagg atctcgacgc 600
 actcaccggc ggactacaga agtcggatct catcatcgctc ggtgcccggc ccgcgatggg 660
 caaaacgtcg tttgccctca acctggtcga caccgcgctc cagagcgacc aacagaagtc 720
 tgttcagggtg tacagcatgg agatgccggc agagcagttg ctgttcaggc ttgccgccct 780
 gttcggccac ctggacctgg gcaagctgat gaagggccaa ctgcaagaag aggattggcc 840
 cagactgtct ggcgcgatcc agcgcataaa cgactatggc agccggctgg tcatcaacga 900
 tcagggaac ctcacgccga cagagctgcg cgccaaggtt cgccggggcg ccagggaagta 960
 cggacacccc gcgctgatat tggctcgacta cctgcaactg atgagttgcc caggcctgga 1020
 gaatcgagcc accgagatct cggaaatctc ccgctcgctg aaagcgctgg ccaaggagat 1080
 ggactgtccc gtcgtagctc tatcccagct aaatcgcggc ctagagaacc ggacgaacaa 1140
 gcgaccgaac tgcgcggacc tacgagagag cggcgcaatc gagcaggacg cggacgtgat 1200
 catgttcgtg taccgcgacg aggtctacca cccaacacc gaggccaagg gcatcgccga 1260
 aatcatcatc ggcaagtatc gcaacgggtc gatcggcacc gtccacaccg ccttcatcgc 1320
 caaccagacc cgctttgccg acctggcgcc ggggacctgg caa 1363

<210> 89
 <211> 708
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 89
 atgactcgct ctgctctctc gaccatcgcc tacgaggccc tgggtcgctg ccgccgcaaa 60
 ttcagcaacc gagaggagcg ctgcatccgc gaaacctgga ccgccgaaca ggaactggtg 120
 ctgctgcgcc tgtatccgga tatgccgaac gaggtcctgg cagccaggtt gaacaaaacg 180
 ctccagcaga tctgctccag agcgtatcgg ctccgggtga aaaaaagccc tgagttctcc 240
 aagaagatcc ggcaggactg gggcagcgca actcggttca agaagggaac caccatgg 300
 aactgcggca tgaaggggct gccgcgcga ggacgcgcac cagaaacgca gttcaagaag 360
 gggcaaaagc cccacacatg gctcccagtc ggcagcacgc ggtcagcgc tgatggctac 420
 ctgcaacgaa agatctcgga taccggctat ccccccggg actggaagg catccacatc 480
 ctgctctggg aagaacactt cggccccatc ccaaccggcc attgcgtctg cttcaaggac 540
 aacaacaagc agaacgtcgt catcgacaac ctggagctca tcaccggggc cgaacgcatg 600
 cgccgcaact ccatccatcg ctatccacct gagctgaaga gcgcaatccg cgtcatcagc 660
 aagctcaaac gcaccattca ggaggtcgag catgaagaac aagattga 708

<210> 90
 <211> 702
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 90
 atggacaagc aaaaagtcct cgccaaggtc gagaagctga tggccctggc gaatgccaa 60
 ggggccacgc cgaacgaggc ggaaaccgca ttgcgccagg ccgcgatcct gaagcggcag 120
 ttcgacctca gcgatcgga gatctcggcc cacacggtgg aaaccgctg cgttccact 180
 cgaaccaggc gctctcctgc cccatggctg catgaactgg ccgggatctg cgccagttcc 240

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|-----|
| ttcggctgcg | actacctggc | ggcatacgcg | atgccagcgg | gctggacgtt | caagttcatg | 300 |
| ggccgagggg | tccggccctga | gctggccgct | cacgcctact | ctacgctcca | ccaccaactg | 360 |
| gtggcagcgc | gctcggctca | tgtcgcccaa | cagaagcgct | gcaagctgtc | gaccaagcgt | 420 |
| cgtcgcagca | agctcttcgt | cgaaggctgg | cttctcgtag | tgcgttcgct | ggtacgtgaa | 480 |
| tttgctggca | ggccggacga | gtcgactcaa | gcagccatca | aggcctacct | cgaactacac | 540 |
| catccggcgt | tgaagtacct | ggagccggcg | gcgcttacga | aggcccttgc | ctatgaccag | 600 |
| gcctcgctgc | aagcaggctg | ggagcacggc | aaaaacactc | gcctgcaccg | cgggtgtcagc | 660 |
| cggcgagttc | agggcgcgct | cgagcagggg | ggttcccaat | ga | | 702 |

<210> 91

<211> 687

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 91

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgagtgaac | ccaagctcaa | gccctgcccg | ctctgcggca | gcacgaacat | tcgaatgctg | 60 |
| gaacccgagc | tgctcgacac | cgatgcctgg | aactgtgcca | ttgaatgcct | ggactgccag | 120 |
| gttcacatcg | ggccgtccta | ctgcgagcca | gacccggtaa | cagcgaggta | ttcagcacag | 180 |
| atcgactgga | atagacgccc | aagcgcaaaa | aaccacgcgg | acgagcgtga | gcagttcttg | 240 |
| atggccaacc | tgctcgccgc | cctggaggtc | gcactgggcg | acgtagcagc | cctggctatt | 300 |
| gtcgatcggg | taagacaggc | cacagaccga | atttacccaa | cttcgaacct | ctcccctgtt | 360 |
| ccgcaggcct | ggctcgatgt | acaggccgag | cgccggcgcc | agatcaccgt | cgaagggttc | 420 |
| gataccagca | acgacgacgc | tagcgctggc | ctgatcgccc | tggcggccgg | ctgctacgcg | 480 |
| ctccatgccg | gcggcatcgg | caccgactgg | ccgggcggca | ttcggaatgg | ctctgcactg | 540 |
| ttctggccct | gggacgaaga | gtggtggaag | cctaagtcgg | cgcgcgagaa | cctggtacgc | 600 |
| gccggcgccc | tagtgctggc | cgagatcgag | cgctgggacc | gctccgccac | cgagcagggc | 660 |
| tcaaccatct | gcaagggggg | cgcgtaa | | | | 687 |

<210> 92

<211> 498

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 92

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgaacctcc | agaaccgcaa | caacctccta | ctgagcttga | tcgccgagac | ccagttcgac | 60 |
| gcctacgtgc | aaggctacat | ggccaaagca | ggcgctgccg | ccggtgcttc | cgagaatctg | 120 |
| caaatcgagg | ctgaagggtc | tgcgatgttg | cagggcctgg | tcgctccggt | tcgcgctcag | 180 |
| cagcgtgcct | gtggacagtc | cctgcagaac | gcactgctcc | aaatcgccca | cgacctactg | 240 |
| ttgcagacga | aatcgcaact | ggccatcgcg | gccaatgccg | gttcgatcca | agtgatccag | 300 |
| cgggacatga | acagggcgat | ctggaacata | gctactgccg | tcgatcacct | ggccgagttc | 360 |
| gcccaaccct | cgcaggacac | tgtgagggtc | atcgaacggc | tgatgctctt | cgtcggcagc | 420 |
| tcataagca | ctgaaggcca | gcaactggcc | gccgaggcaa | atgcggtgct | cggcatgagc | 480 |
| gtgggaggcc | tggcatga | | | | | 498 |

<210> 93

<211> 681

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 93

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| ctgaacaagt | tccgcagcgc | cgccgacctt | cggagccagc | aggccaaatt | gaccggcgct | 60 |
| acgcgagaaa | tacgcaagct | gactggtggc | ggtatcgacc | tggttcgggaa | gctgggttgc | 120 |
| tacttgagct | tcgaacaaaa | gcagctccta | caagacgcag | cgcgcttgct | cgactcggtg | 180 |
| aacaagcaga | tcgagcatgc | gaaggaaaag | cgtgatcgct | acgagaaaaa | agccaagaag | 240 |
| cggcgcgagc | tacgtgagcg | cctggccaag | caactggctg | cctcgaaacta | cccgttccg | 300 |
| ggaaatagc | tcgaagatcg | gctggaaatc | ctgcagatcg | cgttgatcta | caaccggggc | 360 |
| agggtgttcg | atcacctgta | ctccacgcac | cagctccact | caaaactcaa | acgctggctg | 420 |
| gagcgtccaa | agcagctcat | cggatggcgc | agtgaagccg | agtatttcgc | tagtcaggtg | 480 |
| gggagcctgc | gatgtgactt | cattagccat | ctgactaacg | aaatcgcgta | cgacgatggc | 540 |

```

agtgaagtgcg aggagcgcct gcgcgtcatc aagcagaagg tcgctgactg caccgcacag 600
atcgctctga ccagcgagga gcaggaaacc cttcggtctt ggacagacgc tctgcaatcg 660
gctccggagg gcctcatatg a                                     681

```

<210> 94
 <211> 930
 <212> DNA
 <213> *Pseudomonas aeruginosa*

```

<400> 94
atgaatgcga aagcgacttc ggttgatatcc accaagggtg gtgtaggaaa atccaccacc 60
gccgccaacc tcggtgcatt ttgcgccgat gcaggcatac gaacctctct catcgatctg 120
gaccccgctc agccctccct atcctcgtac tacgagctgc cggaagttgc ccagggcggc 180
atttacgacc tgctcgccgc caacataacg gacccggcga ggatcatctc caggacgatt 240
atccccaatc tggacgtcgt gatttccaac gaccagaaca atcagctcaa caacctactg 300
ctccaggcgc ccgatggccg gctacgcctg gcgaacctga tgcccgtctt gaaagaaggc 360
tacgacctgg tgctgatcga caccagggt gcgcgctcag ctttgctcga aatggttggt 420
cttgcatcgg acctggttgt ttccccctc caacccaaca tgcttaccgc ccgtgagttc 480
aaccgcggca ccatgcaaat gctcgacggc ctacgcccct atgagcgtct cggcatgcgg 540
atccccaatg ttcagatcgt catcaactgc ctggaccaga ccaatgactc ccgggcaatt 600
cacgagaatg tgctgcatc cttcgatgag catcaggaca tttctgtgct cgaaacgact 660
gtcccgatg ccgtcgtgtt tcgcaacgca gcacgcgcgc ggctaccagc gcaccgcctc 720
gaaacgcggc aaccctccaa tcgcacatca gcgcccgcgc tggaaatcat tcgaaacctg 780
gccatcgagg tctttccgga gtggactgac cgcttcctgg cgctgacgcc gggaggcggt 840
tgcagcactg gtcaaggagg ggcgctgaca tggcgaagac tcctatcacc caagcccgcg 900
acgtcgacgc ggaacttggt ctggaactga                                     930

```

<210> 95
 <211> 322
 <212> DNA
 <213> *Pseudomonas aeruginosa*

```

<400> 95
atggggatct accgcccga gacgtctcgc ctagcgatac cgatactgag gggccgggcta 60
ccggacgaaa ggtagctcgc cctcccagca gttcgctagg cctgtaggaa aaatctggaa 120
ttaccgagag cgctggatt ccagcgccgg catgctggca gagccccgca atttcaaggc 180
cgaaaccgca gtacctctg taatcgctga ttacgtcgag ggcacattgc tacgcctgca 240
gaatggtttc agggcctgaa aaacagaaaa gccaccta ataggcgggc tattccatat 300
tgacatcacg tcaatgcggg cc                                     322

```

<210> 96
 <211> 1281
 <212> DNA
 <213> *Pseudomonas aeruginosa*

```

<400> 96
atgacgcgcg agcagctcac cgaggagtac atcttcgcgc acgatctccg agaagccagc 60
gcgaagatct accgcgcgcg gaccaaggcg ctgctcaagc acttcggccc tacggcaacc 120
gtacaggagg tggaccacag gtctgtgctg ggatggcggc gcaaggtcct ggaacaaggc 180
ctgtcgaagc ggagctggaa cacgtattcg aatcatctgc gaacgatctg gggctatgcc 240
atcgagcacg agctgggtgac aactcccaa gtcaaccctg tcagaaagac caccgtcatc 300
ccccccaggc gagcaagcaa aaccgtcgca gccgaagcca tctgcgcgc ccgcaattgg 360
ctcaacatgc aggtcggcgc cgagcgtgac actggcgatc gcgcacgcat cactcccgcc 420
tggttctggc ttgacacgtt tgaggtcttc tacttcaccg gcacccggtt gaatgcgctg 480
ttgtgcatcc gcaagcgcg catcgactgg gaaaatcaac tgatcctcat ccgcggcgag 540
acagagaaaa ctcataaaga gttcgtagt ccaataacgg aggggcttgt gcctcaccta 600
tcgcggtctc tgcaggaggc cgatagagcc ggattcgccg atgacgacca gttgttcaac 660
gtcaaccggt tctcaccgca ctacaagagc aaggtgatga actccgacca ggtcgaagcc 720
atgtaccgga agttgaccga gaaggttggt gtgcggatga ctccgcaccg tttccggcac 780

```

```

accctggcca ccgacttgat gaaggcaccg gagcggaaca tccacctcac gaagtgcctg 840
ctcaaccact cgaatatcca gaccaccatg agctacatcg aggccgacta cgaccacatg 900
cgtgccgtgc tgcattgccag aagcctggcc caaggagcgc tggagaacgt caggaagggtg 960
gattacagcg gctccccgca agcctctgcc aaaccgaagc catgcgggca acctctcgct 1020
cgaatgggtg aagcgcggcc acaggaggct aggacagaac ctgcagaacc aaggaggacac 1080
acaccaggga caggcattca gggagatgca accgcgtggg aagaagcgct accacagcca 1140
cctgacacct tcgagcaaaag cgtgctgttc actctgatgg ctcaacacct atcgaaccgt 1200
gccgccacgg cctccgcggc ttccaccgca acaagcggat ctggaggatg gggatctacc 1260
gccgaagca gtctcgcta g 1281

```

<210> 97

<211> 378

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 97

```

atgaaatctg gtatcgcgac ccgtcgctg ttcattcaacg acaccaaggc tttggtgcat 60
accgtcgacg ggaccgcat gctggtcacg ccagggaatct tcaagcgta tgtccaggag 120
catccggagg ttgaaaagct ggcccaggcc aaggagaccg ccggtggaa gctggtgcag 180
cgcgcttctg agaaacaggg tcttcaccga aagaccagta agaacctgaa tatctggacc 240
atcaaggttt ctggtcctcg caagacgaaa gagctcaagg cctacctgct ccaggatccc 300
aaattgctgt tccctgtgca gcctctggac aaccaagcc tcacgggtcat caccgatgcc 360
gaaggagggtg tggaaatga 378

```

<210> 98

<211> 843

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 98

```

atagaccagt tgagtgcgca ggagtcggtg gaagtggctt gctcagcttt cgatgtggcg 60
cggctcttgct actacgtcca ccgtcttcga cggcggcgtg tcgatgctcg ccgcgtggcg 120
ctacgcagcc aagtcaacca gttgttcagc cagagtcggg gctcggccgg cagccgcagc 180
attctgggca tgctgcgca agaggcggtg accatcggcc gtttccgagt gcgtcggttg 240
atgcgtgagc tgggcctggt cagcaagcaa ccgggctcgc acgcctacaa acaggccacg 300
gttgagcggc cggatatccc gaatcggctg aaccgcgaat tcgcgaccga gcatcccata 360
cagggtgtgtg gtggcgacat cacctacgtc tgggcgcaag gccgttgga ctacctggcc 420
gcggtgctgg atctgctgat cggctgggcg ttctcgcca agccggatgc cgaactggtg 480
atcaaggccc tggacatggc ctacgaacag cgcggcaggc cacagcagg gctgttccat 540
tcagaccagg gcagccagta cggcagccgc ctgtttcggc aacggctctg gcgctatcgg 600
atgcagcaga gcatgagccg tcgggggaat tgctgggata actcgccgat ggagcgccgtg 660
ttccgcagtc tgaagtcgga gtgggtccc tcaacgggtt acctgacggc gcaggaggcc 720
caacgggaca tcagtcatta cttgatgcac cgctacaact ggatcaggcc gcatcaattc 780
aacgacgggt taccacctgc ggtggccgaa gaaaaactca acccactgtc cgggatgggt 840
tga 843

```

<210> 99

<211> 285

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 99

```

atgttgattt tttcttgcag tatgaagatg ggtggttggg tcggatatag gtacttctct 60
ctattttctt taattgctct catctatggg tgtgtcgggt gtggagggtg atcggatgag 120
attgggcagc actgctttga gagagagcaa aagctttccg gagttaatga taatgaagag 180
gggagtgtga ggttgaatcg gctgaactgc gatccaattg aaggtcgtgt tcttgaatca 240
gagaagctga taagaaagcc gcccaatgag ctgggtattc actga 285

```

<210> 100

<211> 624
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 100
 atgaaaaaat cacttggtat gtcggctgtg cttttggtgg ctagcaattt cgcgtgtgct 60
 gatgagggct caaatgatgg aagtgaata tgctggggcg aggggtggagt tgaaataaca 120
 agtctggggg aagtctcaaa ggggtgtgat gttgaagatg ttgtagtttg ttcgattcct 180
 ccaagtaata tgaagtcgag tcaaagagcg cctacactcc ctccctctgca aaggatgata 240
 atttcggcaa tgccttcacc aggaacggtc actgtttctg ccagcggaga taggaaattt 300
 acaacatctt gccgggcaaa tctttatgct ccacgttatg ccaatttcta tccagacggg 360
 gtttagcagg gaacatcaga tctacgatgt gttggttaca atacaccccg gaattcatct 420
 caagggtgta atgtgtcatg ggacggccc accgacattc aattgggtgt tgagccatat 480
 ggcggatctg ttgttgtaaa ctacagttgc actgcattca aaacaacgat tccagtata 540
 atgagctaca gttatcgtga tgggcgggca gtgtatggcg aggtccagaa tgtgtcagga 600
 ataataaatg tggttttgaa ctaa 624

<210> 101
 <211> 318
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 101
 atgcttatta aaattcttcg aattatattc ttgttgcccta tagttggttt ggcacagcag 60
 gctgctgcct ccccgccgc agagtcacac tcggaacaat ctgaatcttc gtgtatcgat 120
 gtccaagtca atggagcag tagcctgtct tataactgca tggctcagca aatgactcca 180
 cccaaagagg atcctcggcg tcggaaccct accttgaact ccacattagc gtctgaacgc 240
 gccactcgcc tgccaccac acagacagga ctttttaccac gccttcatca acgtgccata 300
 tcgaactcga aagactag 318

<210> 102
 <211> 204
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 102
 gtgagtagta ctaagagtaa gccgatagcc agggggcggtg gtggccatt tggggaagtg 60
 atgaagaggt gcgggcttgt accggttcga ggaaggaata gacagcagac aggatcgctt 120
 gcgatggggc agcaggaac catcagccc tccgtatcca gaactgctgc ttgcagcgtt 180
 aggggtgact ccctcatgcc ctag 204

<210> 103
 <211> 219
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 103
 atggaacgct tgctcgagag catttacatc aatgcccggc cggcgatgga gttgaggctt 60
 agcctcacca gctccggccg caagagaatg gtaaagattg tggatgggga ggaggtcgag 120
 gttctgccag gtgaagtga gggcatcctg gaggccaaa agaggatgt tggaatcctc 180
 gccgacttct tagccaagag tctcgtggcg cgacgctag 219

<210> 104
 <211> 450
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 104
 atggaatgcc acgttcgtcc cgccacgagc agagatgcag cagcgataag ctgcgtagtt 60

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| atagccgccc | tgcgtgagtc | aaattcacag | gactatccgc | ctgatgtgat | cgctcagggt | 120 |
| gagcagagct | tttctcctga | agccatcacc | acacagctta | cgaagcgtag | ggtcttcgta | 180 |
| gccttatttg | gcgaaaacat | tattggcact | gccggtctcg | acggtgacgt | cgtcagaagt | 240 |
| gttttcgttg | acccagctca | ccagaaaggc | ggtatcgggc | ggcatttgat | ggatgtcatt | 300 |
| catacaactg | ctgccagcgc | gggagttgga | gctgtacgtg | tgccatcgtc | gattacagct | 360 |
| gaaaggtttt | ataccgcatt | gggttatcag | aaaatccgcg | acgagtttca | tggggcgagg | 420 |
| cgccaccatcg | ttatggagaa | gcggctgtag | | | | 450 |

<210> 105

<211> 1101

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 105

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| ttgtggttga | cctgcacgcc | acagcaggat | gtgcaggcgg | cgtagctac | agcgtcgata | 60 |
| ctcctggggc | agttccacca | gttgggcgtg | cagctcggtc | ggtacactag | cctcgaccgc | 120 |
| cttgaggaag | tcgagaagaa | cgcttctgca | ctgccgtctc | ctgcttgga | aacggattct | 180 |
| actaagttca | gcgtggtact | gaaatcgggg | ggcaggtcaa | tcgacaaaag | tatcccgacc | 240 |
| gcaggtttgt | tggccacgt | gatggtggcc | aagtttgccg | atcacttgcc | gctgtaccgg | 300 |
| caggagaaaa | tctttggccg | cgccgggctg | gcaattgctc | gctcgaccct | ggcgagtggt | 360 |
| gtcggacaaa | ccggcgtgcg | gcttcagcca | ctggctgatg | cactgcgtga | agccgtgctg | 420 |
| aaccagggcg | tgatccacgc | tgatgaaaca | ccggtgcaaa | tgcttgccgc | aggcgagaag | 480 |
| aaaaccacc | gggcctatgt | ctgggcgtac | agcacgacgc | cgttttcagg | gctcaaagcg | 540 |
| gtggtttacg | acttcagccc | aagccgtgct | ggcgaacatg | cgcgcaactt | cctgggtgac | 600 |
| tggaacggca | agctggtctg | cgacgacttc | gctggctaca | aagccggttt | cgaacaaggc | 660 |
| atcactgaaa | tcggctgcat | ggcccacgcc | cggcgcaagt | tctttgattt | gcacgtggcg | 720 |
| aacaaaagtc | agctggctga | acaggccctg | cactcgatca | gcggcttgta | cgaggtcgaa | 780 |
| cgtcaggcgc | gggacatgag | tgatgaagag | cgctggcgaa | tacgacaaga | attggcggtg | 840 |
| ccgatcctca | aaaaactgca | tgactggatg | ttggctcagc | gagacctggt | gcccattgga | 900 |
| tcagccacgg | ccaaagccct | cgattacagc | ctgaaacgct | gggtagcgct | gacgcgctac | 960 |
| ctggacgatg | gggctgtgcc | catcgataac | aatcaggtcg | agaaccaa | acggccatgg | 1020 |
| gcgctcgggc | gttcgaactg | gctgtttgcc | gggtcgctgc | gcagtggtaa | acgggcggct | 1080 |
| gcaatcatga | gcctgatcta | g | | | | 1101 |

<210> 106

<211> 570

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 106

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| atggtgaggg | ggcggagggg | cgcggtggcg | cgcgaaatgcc | tgagcctgtc | gagcgcaccg | 60 |
| aaccaggtct | tgctgatgga | tttcgtcttc | gacgcgctca | gcactggggc | acggatcaaa | 120 |
| tgctgacgg | tggtcgatga | cttcaccaag | gtgtcggtcg | acatcttggt | ggagtacggt | 180 |
| atcagcgggt | ttcgtgtcac | gcgggcgctg | gacgagatgg | cgcggtttcg | tggctaccgc | 240 |
| caggcgatcc | gcaccgacca | gggccccgag | ttcaccggca | aggcgcttga | tcagtggggc | 300 |
| tgctcagcgtg | acatcaagtt | gaagctgatt | cagcctggcc | agcccacgca | gagcgccttc | 360 |
| atcgagtcac | tcaacggcaa | gttcgggggc | gaatgcctca | atgagcactg | ctcgtggtc | 420 |
| gaagccagaa | tccgtatcgc | ggcttgggcg | gattacaacg | agcaccgacc | acacagcgcc | 480 |
| attggcaatc | tctccccggc | agagcttgct | gcgaagtggc | gaaccaacca | gcagcagctg | 540 |
| aagcgggaaa | agttgatatc | aaccccatag | | | | 570 |

<210> 107

<211> 2066

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 107

| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|-----|
| atgcataatcc | aatcggttggg | ggctactgcc | tcctcgctga | atcaggagcc | tgctgaaacc | 60 |
| ccgtcgcagg | cagcgcataa | gtccgcgcagc | ttgcgtcagg | aaccttcagg | gcaaggtctc | 120 |

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|------------|------|
| ggggttgccc | taaagagcac | gccgggaata | ctttccggga | agttgccgga | aagcgtagc | 180 |
| gacgtgcgtt | tcagcagtc | ccaagggcaa | ggggagtccc | gtactctgac | tgactcggca | 240 |
| gggccgcggc | agatcactct | gcgccagttt | gagaacggag | tcaccgagct | acagctcagt | 300 |
| cggccacccat | tgaccagtct | ggtcctaagc | ggcgggtggtg | ccaaaggtgc | ggcatacccg | 360 |
| ggagcaatgc | tggcgctaga | agagaaaaggc | atgctcgatg | gcacccgag | catgtccggt | 420 |
| tcgtccgctg | gcggcatcac | cgccgccctt | ttggcctcag | gtatgagccc | ggcggcgttc | 480 |
| aagacccttt | ccgacaagat | ggatcttatt | tcgctgctcg | acagctcgaa | caagaagctg | 540 |
| aagctgtttc | aacacattag | cagcgagatc | ggcgcatcgc | tgaaaaagg | cttgggcaac | 600 |
| aagatcgggc | gcttctctga | gttgctgctc | aatgtactcc | cacgcataga | ttcgcgggct | 660 |
| gagcccctag | aacgcctatt | gcgcgacgag | acacgcaagg | ccgtgctcgg | acagatcgct | 720 |
| acgcattccag | aggttgacg | ccagccgacc | gttgccgcca | tcgccagcag | attgcagtcc | 780 |
| ggctccggag | tcacctttgg | cgatctagat | cggttgagtg | cttacattcc | ccagattaag | 840 |
| acgctgaaca | tcacaggtac | ggccatgttc | gaggggctgc | cgcaattagt | ggtgttcaat | 900 |
| gccagccaca | caccgatct | ggaggtcgcc | caggcggcac | atatctccgg | ttccttccca | 960 |
| ggagtgttcc | agaaggtcag | cttgagtgat | cagccgtacc | aggccggcgt | agagtggaca | 1020 |
| gaattccagg | atggcggggt | gatgattaac | gtgccgggtcc | ctgagatgat | cgacaagaat | 1080 |
| tttgacagcg | ggccactgcg | gcgcaacgac | aacctgatcc | ttgagttcga | gggcgaagct | 1140 |
| ggggaggtag | cgcccgaaccg | aggtactagg | ggcggcgcgc | tcaagggtcg | ggtcgctcgg | 1200 |
| gtgcctgccc | tgcaggcgcg | cgaaatgctg | cagctcgagg | gcctggagga | attgcgcgag | 1260 |
| caaaccgttg | tgggtgccgt | gaagagcgag | cgcggtgatt | tcagtggcat | gctcggtggc | 1320 |
| accttgaact | tcacatgcc | ggacgagatc | aaggcgcatc | ttcaggagcg | cctccaggag | 1380 |
| cgagtcggtg | aacatctgga | gaaacgtctt | caggcttcag | agcgtcatac | cttcgcttct | 1440 |
| ctcgacgagg | cgctgctggc | acttgatgac | agtatgctca | ccagtgttgc | tcaacagaac | 1500 |
| ccggagatca | cagacggggc | ggtggctttt | cgccagaagg | cgcgggatgc | gttcaccgag | 1560 |
| ctgactgtcg | ctatcgttag | cgccaatggc | ttggcgggta | ggctcaagtt | ggacgaggct | 1620 |
| atgcgctccg | ctcttcagcg | actcgatgcg | ctggcagata | ctccggaacg | cctagcatgg | 1680 |
| ttggcagctg | agttgaacca | tgctgataac | gttgatcatc | agcagttact | cgatgccatg | 1740 |
| cgcgggcgaga | cggtgcagtc | gccggtgctc | gccgctgcgt | tagcagaggc | gcagcgccgc | 1800 |
| aaagtggcgg | ttattgccga | gaacattcgt | aaggaaagta | tcttcccctc | tctgtatcgc | 1860 |
| cctggccagc | cggattccaa | cgtagctctg | ttacgtcggg | cggaggagca | gctacggcat | 1920 |
| gccaccagtc | cggcggaat | caatcaagcg | ctgaacgata | tcgtcgacaa | ctactcggca | 1980 |
| cgaggcttcc | tgcgtttcgg | caaacccttg | agttcgacta | ccgttgagat | ggctaaggct | 2040 |
| tggcggaata | aggagttcac | atgatt | | | | 2066 |

<210> 108

<211> 414

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 108

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atgattgata | catggctggc | acagtggggc | ttgagacttc | cctcgagcaa | cgatgccacg | 60 |
| ttgcggctgc | aaccggcaga | gggaccgaa | ctggttatgg | agcgccctga | gggcgggttg | 120 |
| cttttcgtcg | tcgagttggg | acttgtgcct | tcagggttac | cgctgggtgt | gatcttgcaa | 180 |
| ttgttacaag | tgaactctcc | attctcatcc | ttggcaccgg | tgaacttg | ggcgacgat | 240 |
| gccggtagac | ttgtgctctg | ggctgaggca | cgtgatggcg | ttgacgatgt | ggatgcactg | 300 |
| aaccgcttgc | acgataggct | gcgggaagga | cattcacgat | tagtgccatt | gctagagccc | 360 |
| acgggtgagt | tggttccagc | tcagatacaa | accagcgctg | tagtggtcgt | ttga | 414 |

<210> 109

<211> 514

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 109

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| aattcgcggc | cgcggtgcga | cgaccaaacc | tgtgataaacc | tgtctcaaaa | ccctcctcat | 60 |
| catctactcc | ttcgtcttct | ggatcactgg | ggtgatccctg | ctggctgttg | gagtcctggg | 120 |
| caaacttact | ctgggcacct | atatctccct | tattgccgag | aactccacaa | atgctcccta | 180 |
| tgtgctcatc | ggaactggca | ccactattgt | tgtctttggc | ctgtttggat | gctttgctac | 240 |
| atgtcgtggg | agcccatgga | tgctgaaact | gtatgccatg | tttctgtccc | tgggtgttcc | 300 |

```

ggctgagctc gtagctggca tttcaggggt tgtgtttcgt catgagatca aggacacctt 360
cctgaggact tacacggacg ctatgcagac ttacaatggc aatggcaatg atgagaggag 420
ccgggcagtg gaccatgtgc agcgcagcct gagctgctgt ggtgtgcaga actacaccaa 480
ctggagcacc agcccctact tcctggagca tggc
514

```

```

<210> 110
<211> 519
<212> DNA
<213> Pseudomonas aeruginosa

```

```

<220>
<221> misc_feature
<222> 239, 383
<223> n=a, c, t, or g

```

```

<400> 110
aattcgcggc cgcgtcgacc aagtgcaaca ccctccactg tgccttttgg accagcacca 60
acaggaatgt atccctccgt gcctcccacc ggaccacctc caggaccccc agcacccctt 120
cctccttccg gaccatcatg tccccacact ggtggtcctt atccagcccc aactgtgccg 180
ggccttgccc ccacagggcc atatactaca ccaaataatgc cttttccaga gctacccana 240
ccatatggtg caccacaga tccagctgca gctggtcctt taggtccatg gggatccatg 300
tcttctggac cttgggccc aggaatggga gggcagtatc ctaccctaa tatgccatat 360
ccatctccag gcccatatcc cgnctectct cctcccacag cccctggggc agcaccacct 420
gttccatggg gcaccgttcc accaggagcc tggggaccac cagcaccata tcctgcccct 480
acaggatcgt atcccacacc aggactctat cctactccc
519

```

```

<210> 111
<211> 514
<212> DNA
<213> Pseudomonas aeruginosa

```

```

<220>
<221> misc_feature
<222> 506
<223> n = A,T,C or G

```

```

<400> 111
aattcgcggc cgcgtcgact gcggaggagc ctctgtcac aacaccctgg ggagctacaa 60
gtgcatgtgt cccgccggct tccagtatga acagttcagt ggaggatgcc aagacatcaa 120
tgaatgtggc tctgcgcagg cccctgcag ctatggctgt tccaataccg agggcggtta 180
cctgtgtggc tgtccactg gttacttccg cataggccaa gggcactgtg tttctggaat 240
gggcatgggc cgaggaaacc cagagccacc tgtcagtggg gaaatggatg acaattcact 300
ctccccagag gcttgttacg agtgtaagat caatggctac cccaaacggg gcaggaaacg 360
gagaagcaca aacgaaactg atgcctccaa tatcgaggat cagtctgaga cagaagccaa 420
tgtgagtctt gcaagttggg atgttgagaa gacagccatc tttgctttca atatttccca 480
cgtcagtaac aagggttcgaa tcctanaact cctt
514

```

```

<210> 112
<211> 400
<212> DNA
<213> Pseudomonas aeruginosa

```

```

<400> 112
aattcgcggc cgcgtcgacg gggatgttta caaccccagc accggggtct tcacggctcc 60
ttatgatggg cgctacctga tcacggccac cctcaccccc gagagagacg cctacgtgga 120
agcagtgtctg tcggtctcca acgccagcag tggcccagct gcataccgct ggggtacagga 180
gagagttcct ggaataccac cgccctccag gagctttgca tacctgcggg ggcccggggg 240
cattccacct catcgtgcac ctgaaggcgg gagatgcagt ccacgtcgtg gtgactgggg 300
gcaagctggc tcagacagac ttgatgaaa tgtactccac atttagtggg gttttcttat 360

```

atccttttct ttccacctc taaggtggct ggggagatgt

400

<210> 113

<211> 433

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 113

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| aattcgcggc | cgcgctcgaca | aagaaaaaaaa | gaaagttttc | actctgggct | gtggaactat | 60 |
| ttcaggactt | cctgaggggt | ttcctctgga | gcttcctgag | tttcctcctg | gacattttgt | 120 |
| ctccagggtc | cagcgccagg | caggggtggc | tcccgggaag | gctgtgggtg | ccaccctggc | 180 |
| tgactgcagc | cctctcttgc | acctcctccc | ggccatccac | ccgcaggagg | tcttccccca | 240 |
| gcactggctt | gtgaggagct | ccctctgccc | gggagaaaat | ggctcctccg | ggtcacaggc | 300 |
| tcccctccag | ggactgaggg | gcatttttgg | attgtgggga | aggcgctcca | gggcccgggt | 360 |
| ctgtggcccc | aggcctgttg | ctcggctggg | tggaggcacc | tctgcaggcc | gggagcttgg | 420 |
| tctttgaaca | cct | | | | | 433 |

<210> 114

<211> 400

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 114

| | | | | | | |
|------------|-------------|------------|------------|-------------|------------|-----|
| aattcgcggc | cgcgctcgacg | gggatgttta | caaccccagc | accgggggtct | tcacggctcc | 60 |
| ttatgatggg | cgctacctga | tcacggccac | cctcaccccc | gagagagacg | cctacgtgga | 120 |
| agcagtgtcg | tcgggtctcca | acgccagcag | tggcccagct | gcataccgct | gggtacagga | 180 |
| gagagtttct | ggaataccac | cgccctccag | gagctttgca | tacctgcggg | ggcccggggg | 240 |
| cattccacct | catcgtgcac | ctgaaggcgg | gagatgcagt | caacgtcgtg | gtgactgggg | 300 |
| gcaagctggc | tcacacagac | tttgatgaaa | tgtactccac | atttagtggg | gttttcttat | 360 |
| atccttttct | ttccacctc | taaggtggct | ggggagatgt | | | 400 |

<210> 115

<211> 506

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 115

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| aattcgcggc | cgcgctcgacc | gcaactgtca | agacattgat | gagtgtgtga | ctggcatcca | 60 |
| caactgctcc | atcaacgaga | cctgcttcaa | catccagggc | ggcttccgct | gcctggcctt | 120 |
| cgagtgcctt | gagaactacc | gccgctccgc | agccacgctc | cagcaggaga | agacagacac | 180 |
| ggtccgctgc | atcaagtctt | gccgcccaca | cgatgtcaca | tgcgtgttcg | accccggtga | 240 |
| caccatcttc | cacaccgtca | tctcgctgcc | taccttccgc | gagttcacc | gccctgaaga | 300 |
| gatcatcttc | ctccggggcca | tcacgccacc | gcattcctgc | agccaggcta | acatcatctt | 360 |
| cgacatcacg | gaagggaacc | tgcgggactc | ttttgacatc | atcaagcggt | acatggacgg | 420 |
| catgaccgtg | ggtgtcgtgc | gccaggtgcg | gcccacgtg | ggcccatttc | atgccgtcct | 480 |
| gaagctggag | atgaactatg | tggtcg | | | | 506 |

<210> 116

<211> 435

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 116

| | | | | | | |
|------------|-------------|------------|-------------|------------|-------------|-----|
| aattcgcggc | cgcgctcgaca | cactgcagag | taatgtctcca | tcaagtatga | tgggtgaagga | 60 |
| tgaatatgtg | catgactttg | agggacagcc | atcgttgtcc | actgaaggac | attcaattca | 120 |
| aaccatccag | catccaccaa | gtaatcgtgc | atcgacagag | acatacagca | ccccagctct | 180 |
| gttagcccca | tctgagtcta | atgctaccag | cactgccaac | tttcccaaca | ttcctgtggc | 240 |
| ttccacaagt | cagcctgcc | gtatactggg | gggcagccat | agtgaaggac | tggtgcagat | 300 |
| agcatcaggg | cctcagccag | gacagcagca | gaatggattt | actggtcagc | cagctactta | 360 |

ccatcataac agcactacca cctggactgg aagtaggact gcaccataca cacctaattt 420
gcctcaccac caaaa 435

<210> 117
<211> 427
<212> DNA
<213> Pseudomonas aeruginosa

<220>
<221> misc_feature
<222> 371, 404
<223> n = A, T, C, or G.

<400> 117
aattcgcggc cgcgtcgacc ggcggccgag gagcggcgga ctccggggcgc ggggagtcga 60
ggcatttgcg cctgggcttc ggagcgtagc gccagggcct gagcctttga agcaggagga 120
ggggaggaga gagtggggct cctctatcgg gacccccctcc ccatgtggat ctgcccaggc 180
ggcggcgggc gaggagggca ccgagaagat gccccccctg cgcggcgctc tgctgtgggc 240
gctgtgtggc ctctggctgt gctgcgcgac ccccgcgcat gcattgcagt gtcgagatgg 300
ctatgaaccc tgtgtaaatg aaggaatgtg tgttacctac cacaatggca caggatactg 360
caaagtgtca naaggcttct tgggggaata ttgtcaacat cganaccctc gtgagaagaa 420
ccgctgc 427

<210> 118
<211> 427
<212> DNA
<213> Pseudomonas aeruginosa

<220>
<221> misc_feature
<222> 371, 404
<223> n = A,T,C or G

<400> 118
ttaagcgccg gcgcagctgg ccgcccggctc ctccggcgct gagggccgag cccctcagct 60
ccgtaaacgc ggacccgaag cctcgcatcg cgggtcccga ctccgaaact tcgtcctcct 120
cccctcctct ctacccccga ggagatagcc ctgggggagg ggtacaccta gacgggtccg 180
ccgcccggcg ctccctccgt ggctcttcta cgggcgggac gcggggcgag acgacacccg 240
cgacgaccgc gagaccgaca cgacgcgctg ggggcgcgta cgtaacgtca cagctctacc 300
gatacttggg acacatttac ttccttacac acaatggatg gtgttaccgt gtcctatgac 360
gtttacaggt nttccgaaga acccccttat aacagttgta gctntgggga cactcttctt 420
ggcgacg 427

<210> 119
<211> 2780
<212> DNA
<213> Pseudomonas aeruginosa

<400> 119
atgattaaca gtcatttgct ctaccactga gctatcgcg aacgtctttc ttccaaccct 60
ggacgcttcc ggtgttgctg gattcgctc tcagaggcgc gccattttac ggatgcgcgc 120
gggcatgtca accctctgat ccaaaaagtt tttcttctt ttccacgagc gacaaaacgg 180
cccttccact gcatgcggca gcgtctcgc gcctaccgga cgcctatgaa aaagccccgc 240
cgaagcgggg ctttccctgt ccgccccga agaggtcagg cgaagacgat ctcgtcgcct 300
tccaccttcg ccgagatacg ggcgtgcgcc atagaccggg tcgaagccga cggcaatcag 360
cttgtccagc gcctcctggc tcagttccaa ggctcagctc gcgctcggcc aggcgcttgc 420
gcaggcgacc gagctggatc tcggcgatgc cggcgatctg ctccgcgagcc agcggctcga 480
acaccaccac ttcgtcgatc cggttgatga attccggacg gaagtgcgca ttgaccgcgt 540
ccatcactgc ggcacgttgc gcctcgcggt cgccggccag ctcttgatc tgcgcccgaac 600

| | | | | | | |
|------------|-------------|------------|------------|-------------|-------------|------|
| cgaggttga | ggatcatcacc | accacggtgt | tgcggaagtc | caccgtacgc | ccgtgactgt | 660 |
| cggtcaggcg | tccgtcctcg | agcacctgga | ggagaatggt | gaatacatcc | ggatgggcct | 720 |
| tctccacctc | gtccagcagc | accaccgagt | agggcttgcg | gcggatcgcc | tcggtcagggt | 780 |
| agccgccttc | ctcgaagccg | acgtagcccg | gaggcgcgcc | gatcaggcg | gccaccgagt | 840 |
| gtttctccat | gaactcggac | atatctatcc | gcaccagcgc | ctcctcggta | tcgaagagga | 900 |
| actcggccag | cgccttgac | aactcgggtc | tgccaccccc | ggtcggggccg | aggaagagga | 960 |
| acgagccgct | cggccgggtc | ggatcggcga | ggccggcgcg | cgaacggcg | acggcggttg | 1020 |
| acacggcgac | taccgcctcg | tcctggccga | tcactcgccg | atgcagctcc | tgctccatgc | 1080 |
| gcagcagctt | ctcgcgctcg | ccctcgagca | tcttcgacac | cgggataaccg | gtccacttgg | 1140 |
| aaaccacttc | ggcgatttcc | tcgtcgggtc | cctgttgcg | agcaactgg | tctcgggtct | 1200 |
| gccgtgctgg | tcgaccatct | gcaggctgcg | ttccagggtc | gggatggtct | ggtactggat | 1260 |
| gcgcgccatg | ctctcgaggt | cgccttgcg | ccgcgccg | tccatctcct | gcttggcctg | 1320 |
| ctcgatcttc | tgctggatct | gcgcgcgagc | ctgcacctcg | gccttctcgg | acttccagat | 1380 |
| ctcctcgagg | tcggcgtatt | cgcgctcgag | cttgacgata | tcctcctcca | gcttggccag | 1440 |
| gcgcttcctg | gtggcttcgt | cgtcttcctt | cttcagcgcc | tcgcgctcga | tcttcagctg | 1500 |
| gatcaggcga | cggtcgagac | gatccagttc | ctccggcttg | gagtcgatct | ccatgcggat | 1560 |
| gcggctggcg | gcctcgtcga | tcaggtcgat | ggccttgctc | ggcagttg | gatcgggtgat | 1620 |
| gtagcgggtg | gacagcttgg | ccgcggcgat | gatcgcgccg | tcgggtgatgc | tcacccggtg | 1680 |
| tgcaattcat | agcgttcctt | gaggccacgg | aggatggcga | tggtgtcttc | ctcgctcggt | 1740 |
| tcgtccacca | gcaccttctg | gaagcggcgc | tccagcgcg | catccttctc | gatgtactgg | 1800 |
| cgatactcgt | cgagggtagt | agcaccgacg | cagtgcagct | cgcgcgcgc | cagagccggc | 1860 |
| ttgagcatgt | tgccggcgctc | catggcacct | tccgccttgc | cggcgccgac | catggtgtgc | 1920 |
| agttcgtcga | tgaacaggat | gacccgccct | tcctgcttgc | ccagttcgtt | gaggaccgcc | 1980 |
| ttcaggcggt | cctcgaactc | gccgcggaac | ttggcaccgg | cgatcagcgc | ccccatgtcc | 2040 |
| agggccagca | ggcgttgc | cttgaggccg | tccggcactt | cgcggttgat | gatgcgctgg | 2100 |
| gccaggccct | cgacgatggc | ggtcttgccg | acgcggggtt | cgccgatcag | caccgggttg | 2160 |
| ttcttgggtc | gccgctgcag | gacctggatg | gtccggcgga | tctcgtcgtc | gcgaccgatc | 2220 |
| accgggtcga | gcttgccctc | ctcggcgcgc | ttggtcatgt | cgacgggtga | cttgtccagc | 2280 |
| gcctggcgcg | actcctcgac | gttcgggtcg | ttcaccgctt | cgcgccacg | caggttggcc | 2340 |
| acggcattct | ccagcgcctt | gcgcgacacg | ccctggccga | gcagcagctt | gccgagcctg | 2400 |
| gtgttctcgt | ccatcgcggc | cagcaatacc | agctcgtcgg | agatgaactg | gtcgcccttc | 2460 |
| tgctgggcca | ggcggtcagc | ctggttgagc | aggcgtgcga | gatcctggga | caggttcacg | 2520 |
| tcgccggctg | ggctctggat | cttcggcagc | gcgtcgagtt | ctttgttgag | gccgctgcgc | 2580 |
| agggcgcgca | tatcgaagcc | gacctgcac | agcaggggct | tgatcgaacc | gccttgctgc | 2640 |
| tcgagcaggg | cggaaagcag | gtgcaccggc | tcgatggccg | gatggtcatg | gccaacggcc | 2700 |
| agggactggg | cgtcggagag | cgccagttgc | agcttgctgg | tcaaacgggtc | tattcgcatg | 2760 |
| ggtcgtcctt | ccttctatag | | | | | 2780 |

<210> 120
 <211> 2565
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<220>
 <221> misc_feature
 <222> 371, 404
 <223> n = A,T,C or G

| | | | | | | |
|-------------|------------|-------------|------------|------------|------------|-----|
| <400> 120 | | | | | | |
| atgcgaatag | accgtttgac | cagcaagctg | caactggcgc | tctccgacgc | ccagtccctg | 60 |
| gccgttggcc | atgaccatcc | ggccatcgag | ccggtgcacc | tgctttccgc | cctgctcgag | 120 |
| cagcaaggcg | gttcgatcaa | gcccctgctg | atgcaggctg | gcttcgatat | cgcgcctc | 180 |
| cgcagcggcc | tcaacaaaga | actcgacgcg | ctgccgaaga | tccagagccc | gaccggcgac | 240 |
| gtgaacctgt | cccaggatct | cgcacgcctg | ctcaaccagg | ctgaccgcct | ggccagcag | 300 |
| aagggcgacc | agttcatctc | cagcgagctg | gtattgctgg | ccgcgatgga | cgagaacacc | 360 |
| aggctcggca | agctgctgct | cggccagggc | gtgtcgcgca | aggcgtgga | gaatgccgtg | 420 |
| gccaacctgc | gtggcggcga | agcgggtgaac | gacccgaacg | tcgaggagtc | gcgccaggcg | 480 |
| ctggacaagt | acaccgtcga | catgaccaag | cgcgccgagg | aaggcaagct | cgacccggtg | 540 |
| atcggctcgcg | acgacgagat | ccgcgcgacc | atccaggtcc | tcagcggcg | gaccaagaac | 600 |

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| aaccggtgc | tgatcggcga | acccggcgctc | ggcaagaccg | ccatcgtcga | gggcctggcc | 660 |
| cagcgcatca | tcaacggcga | agtgcgggac | ggcctcaagg | acaagcgct | gctggccctg | 720 |
| gacatggggg | cgctgatcgc | cggtgccaaag | ttccgcggcg | agttcgagga | acgcctgaag | 780 |
| gcggtcctca | acgaactggg | caagcaggaa | ggccgggtca | tcctgttcat | cgacgaactg | 840 |
| cacaccatgg | tcggcgccgg | caaggcggaa | ggtgccatgg | acgccggcaa | catgctcaag | 900 |
| ccggctctgg | cgcgcggcga | gctgcactgc | gtcgggtgta | ctaccctcga | cgagtatcgc | 960 |
| cagtacatcg | agaaggatgc | cgcgctggag | cgccgcttcc | agaagggtgct | ggtggacgaa | 1020 |
| ccgagcgagg | aagacacccat | cgccatcctc | cgtggcctca | aggaacgcta | tgaagtgcac | 1080 |
| cacggggtga | gcatacccca | cggcgcgatc | atcgccgcgg | ccaagctgtc | gcaccgctac | 1140 |
| atcacccgatc | ggcaactgcc | ggacaaggcc | atcgacctga | tcgacgaggc | cgccagccgc | 1200 |
| atccgcgatg | agatcgactc | caagccggag | gaactggatc | gtctcgaccg | tcgcctgac | 1260 |
| cagctgaaga | tcgagcgcg | ggcgctgaag | aaggaaagacg | acgaagccac | caggaagcgc | 1320 |
| ctggccaagc | tggaggagga | tatcgtcaag | ctcgagcgcg | aatacgccga | cctcgaggag | 1380 |
| atctggaagt | ccgagaaggc | cgagggtgcag | ggctcggcgc | agatccagca | gaagatcgag | 1440 |
| caggccaagc | aggagatgga | ggcggcgcg | cgcaaggcg | acctcgagag | catggcgcg | 1500 |
| atccagtacc | agaccatccc | ggacctgaa | cgcagcctgc | agatggtcga | ccagcacggc | 1560 |
| aagaccgaga | accagttgct | gcgcaacaag | gtgaccgacg | aggaaatcgc | cgaagtgggt | 1620 |
| tccaagtgga | ccggtatccc | ggtgtcgaag | atgctcgagg | gcgagcgcg | gaagctgctg | 1680 |
| cgcatggagc | aggagctgca | tcggcgagt | atcggccagg | acgaggcggt | agtcgccgtg | 1740 |
| tccaacgcgc | tgcgccgttc | gcgcgccggc | ctcgccgatc | cgaaccggcc | gagcggctcg | 1800 |
| ttcctcttcc | tcggcccgc | cggggtgggc | aagaccgagt | tgtgcaaggc | gctggccgag | 1860 |
| ttcctcttcg | ataccgagga | ggcgctggtg | cggatagata | tgtccgagtt | catggagaaa | 1920 |
| cactcgggtg | ccgcctgat | cggcgcgct | ccgggctacg | tcggcttcga | ggaaggcggc | 1980 |
| tacctgaccg | aggcgatccg | ccgcaagccc | tactcggtgg | tgctgctgga | cgagggtggg | 2040 |
| aaggcccac | cggatgtatt | caacattctc | ctccaggtgc | tcgaggacgg | acgcctgacc | 2100 |
| gacagtacag | ggcgtacggt | ggacttccgc | aacaccgtgg | tggtgatgac | ctccaacctc | 2160 |
| ggttcggcgc | agatccagga | gctggccggc | gaccgcgagg | cgcaacgtgc | cgcagtgatg | 2220 |
| gacgcggtca | atgcgcactt | ccgtccggaa | ttcatcaacc | ggatcgacga | agtgggtggg | 2280 |
| ttcgagccgc | tggctcgcga | gcagatcgcc | ggcatcgccg | agatccagct | cggtcgcctg | 2340 |
| cgcaagcgcc | tggccgagcg | cgagctgagc | ctggaactga | gccaggaggc | gctggacaag | 2400 |
| ctgattgccg | tcggcttcga | cccgttctat | ggcgcacgcc | cgctgaagcg | ggccatccag | 2460 |
| cgctggatcg | agaaccgcgt | ggcgcaactg | atcctggccg | gcaaattcgc | gccgggtgcc | 2520 |
| agtatctcgg | cgaaggtgga | aggcgacgag | atcgtcttcg | cctga | | 2565 |

<210> 121
 <211> 399
 <212> DNA
 <213> *Pseudomonas aeruginosa*

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| <400> 121 | | | | | | |
| acgtcggggg | cgcattgcta | cgcctgcaga | atggtttcag | ggccttagaa | acagaaaagc | 60 |
| ccacctagac | aggcgggcta | ttccatattg | acatcacgtc | aatgcggggc | taatgttcgg | 120 |
| cccagacggc | tgctagacaa | gaaccggcgt | aacaccctt | cctagcctat | gcaactcgcc | 180 |
| ccgtagaaaa | tgggtgggtcg | tgtaggattc | gaacctacga | ccaattggtt | aaaagccaac | 240 |
| tgctctaccg | actgagctaa | cgacccaagt | atgaggtggt | cggggtagag | agattcgaac | 300 |
| tcccgcacatc | ctgctcccaa | agcaggcgcg | ctaccggact | gcgctatacc | ccgattggaa | 360 |
| tttggctccg | cgacctggac | tcgaaccagg | gacccaatg | | | 399 |

<210> 122
 <211> 811
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<220>
 <221> misc_feature
 <222> 9, 330, 331, 332, 620, 698, 715, 751, 759, 769, 780, 791, 806, 807
 <223> n = A,T,C or G

<221> misc_feature

<222> (0)...(0)

<400> 122

```
gatgaaggna cccgagcgga acatccatct cacgaagtgc ctgctcaacc actcgaatat 60
ccagaccacc atgagctaca tcgaggccga ctacgaccac atgcgtgccg tgctgcatgc 120
cagaagcctg gcccaaggag cgctggagaa cgtcaggaag gtggattaca gcggctcccc 180
gcaagcctct gccaaaccga agccatgcgg gcaacctctc gctcgaatgg gtgaagtacc 240
gccgcccggag gccaggacag aacctgcaga accaaggagg cacataccag ggacaggcat 300
tcagggaggt ccaaccgtgc gggaagaagn nncgctacca cagccacctg acaccttcga 360
ccaaagcgtg ctgttcactc tgatggctca acacttatcg aaccgtgccg cctcggcatc 420
cgcggtctccc gctgcaacaa gcggatctgg tggatgggga tctactgccc gaagcagtct 480
cgccatagcga taccgatact gaagggccgg ctaccggacg aaaggtagcc gcgcctccca 540
gcagttcgct aggcctgtaa gaaaaatctg gaattaccga gagcgctgg attccagcgc 600
cggcatgctg gcagagcccn cgcagtttca cggccaaaac cgcagtacc tctgtaatcg 660
ctgattacgt cgggggcgca ttgctacgcc tgcagaantg gtttcagggc cttanaaaca 720
gaaaagccca ccttaaatag gcgggctatt nccatatnng acatcacgnt caatgcgggn 780
cctaattgtc nggccagac ggctgnnctg g 811
```

<210> 123

<211> 812

<212> DNA

<213> *Pseudomonas aeruginosa*

<220>

<221> misc_feature

<222> 9, 330, 331, 332, 620, 751, 759, 769, 780, 781, 794, 799, 807, 808

<223> n = A,T,C or G

<400> 123

```
gatgaaggna cccgagcgga acatccatct cacgaagtgc ctgctcaacc actcgaatat 60
ccagaccacc atgagctaca tcgaggccga ctacgaccac atgcgtgccg tgctgcatgc 120
cagaagcctg gcccaaggag cgctggagaa cgtcaggaag gtggattaca gcggctcccc 180
gcaagcctct gccaaaccga agccatgcgg gcaacctctc gctcgaatgg gtgaagtacc 240
gccgcccggag gccaggacag aacctgcaga accaaggagg cacataccag ggacaggcat 300
tcagggaggt ccaaccgtgc gggaagaagn nncgctacca cagccacctg acaccttcga 360
ccaaagcgtg ctgttcactc tgatggctca acacttatcg aaccgtgccg cctcggcatc 420
cgcggtctccc gctgcaacaa gcggatctgg tggatgggga tctactgccc gaagcagtct 480
cgccatagcga taccgatact gaagggccgg ctaccggacg aaaggtagcc gcgcctccca 540
gcagttcgct aggcctgtaa gaaaaatctg gaattaccga gagcgctgg attccagcgc 600
cggcatgctg gcagagcccn cgcagtttca cggccaaaac cgcagtacc tctgtaatcg 660
ctgattacgt cgggggcgca ttgctacgcc tgcagaaatg gtttcagggc cttagaaaca 720
gaaaagccca ccctaaatag gcgggctatt nccatatnng acatcacgnt caatgcgggn 780
ncctaattgtt cggnccana cggctgnnct gg 812
```

<210> 124

<211> 809

<212> DNA

<213> *Pseudomonas aeruginosa*

<220>

<221> misc_feature

<222> 330, 331, 619, 634, 697, 711, 725, 731, 796

<223> n = A,T,C or G

<400> 124

```
gatgaaggca cccgagcgga acatccacct cacgaagtgc ctgctcaacc actcgaatat 60
ccagaccacc atgagctaca tcgaggccga ctacgaccac atgcgtgccg tgctgcatgc 120
```

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cagaagcctg | gccaagagag | cgctggagaa | cgtcaggaag | gtggattaca | gcggctcccc | 180 |
| gcaggcctct | gccaaaccga | agccatgcgg | gcaacctctc | gctcgaatgg | gtgaagtacc | 240 |
| gccgccggag | gccaggacag | aacctgcaga | accaagggag | cacacaccag | ggacaggcat | 300 |
| tcaggagagt | ccaaccgtgc | gggaagaagn | ncgctaccac | agccacctga | caccttcgat | 360 |
| caaagcgtgc | tgttcactct | gatggctcaa | cacttatcga | accgtgccgc | ctcggcatcc | 420 |
| gcagctcccc | ctgcaacaag | cggatctggt | ggatggggat | ctaccgcccg | aagcagtctc | 480 |
| gcctagcgat | accggtactg | aagggccggc | taccggacga | aaggtagccg | cgctcccag | 540 |
| cagttcgcta | ggcctgtagg | aaaaatctgg | aattaccgag | agcgcctgga | ttccagcgcc | 600 |
| ggcatgctgg | cagggcccn | gcaatttcaa | ggcngaaacc | gcagtaccct | ctgtaatcgc | 660 |
| tgattacgtc | gagggcacat | tgctacgcct | gcagaanggt | ttcagagcct | ngaaaacaga | 720 |
| aaagnccacc | naaataggcg | ggctatttcc | atatttgaca | tcccgtaaat | gcggggccct | 780 |
| aatggttcgg | gcccanacgg | cttgcttgg | | | | 809 |

<210> 125

<211> 828

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 125

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| tttccggcac | accctggcca | ccgacttgat | gaaggcacc | gagcggaaca | ttcacctcac | 60 |
| gaagtgcctg | ctcaaccact | cgaatatcca | gaccacgatg | agctacatcg | aggccgacta | 120 |
| cgatcacatg | cgtgccgtgc | tgcattgctag | aagcctggcc | caaggcgccg | tggagaatgt | 180 |
| caggaaggtg | gattacagcg | gctccccgca | agcctctgcc | aaaccgaagc | catgcgggca | 240 |
| acctctcgct | cgagtgaagt | aagcgccgcc | accggaggcc | aggacagagc | ctgcagaacc | 300 |
| aaggagacac | acgccaggga | caggcattca | gggaggtcca | accgcgtggg | aagcagatgc | 360 |
| gctaccacag | ccacctgaca | ccttcgaacc | aagcgtgctg | ttcactctga | tggctcaaaa | 420 |
| cttatcgaac | cgtgccgcct | cggcatccgc | ggctcccgtc | gcaacaagcg | gatcaggcgg | 480 |
| atggggatct | gccgccgcaa | gcaatctcgc | ctagcgatac | cggtactgag | ggccggctac | 540 |
| cggacgaaag | gtagccgtgc | cttcagcag | atcgtaggc | ctgtaggaaa | aatctggaat | 600 |
| taccgagagc | gcctggattc | cagcgccggc | atgctggcag | agccagcgca | atttcaaggc | 660 |
| caataccaca | gtaccctctg | taatcgctga | ttacgtcggg | ggcgcatctg | tacgcctgca | 720 |
| gaatggtttc | agggccttag | aaacagaaaa | gccacctag | aaaggcgggc | tattccatat | 780 |
| tgacatcacg | tcaatgcggg | cctaattgtc | ggccagacg | gctgctag | | 828 |

<210> 126

<211> 800

<212> DNA

<213> *Pseudomonas aeruginosa*

<220>

<221> misc_feature

<222> 711, 790, 795

<223> n = A,T,C or G

<400> 126

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| gatgaaggac | ccgagcgga | catccacctc | acgaagtgcc | tgctcaacca | ctcgaatatc | 60 |
| cagaccacga | tgagctacat | cgaggccgac | tacgatcaca | tgcgtgccgt | gctgcatgct | 120 |
| agaagccttg | cccaaggcgc | gctggagaat | gtcaggaagg | tggattacag | cggctccccg | 180 |
| caagcctctg | ccaaaccgaa | accatgcggg | caacctctcg | ctcgagttag | tgaagcgccg | 240 |
| ccaccggaag | ccaggacaga | gcctgcagaa | ccaagggagc | acacaccagg | gacaggcatt | 300 |
| cagggaggtc | caaccgagtg | ggaagcagaa | cgctaccac | agccacctga | caccttcgag | 360 |
| caaagcgtgc | tgttcactct | gatggctcaa | cacttatcga | accgtgccgc | cacgacatct | 420 |
| gcggctcccc | ccgcaaccag | cggatcttgt | agatggggat | ctgccgcccg | aagcagcctc | 480 |
| gcctagcgat | accggtactg | aggggccggc | taccagacga | aaggtagccg | cgctcccag | 540 |
| cagatcgctg | ggcctgtagg | aaaaatctgg | aattaccgag | agcgcctgga | ttccagcgcc | 600 |
| ggcatgctgg | cagagccccg | caatttcacg | gcaaaaccgc | agtaccctct | gtaatcgctg | 660 |
| attacgtcgg | gggcacattg | ctacgcctgc | agaatggttt | cagagcctta | naaacagaaa | 720 |
| agccaccta | gataggcggg | ctattccata | ttgacatcac | ggtcaatgcg | gggctaattg | 780 |
| tccggcccan | acggnrtgcaa | | | | | 800 |

<210> 127
 <211> 501
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 127
 Val Ala Leu Thr Gly Asn Pro Leu Leu Lys Leu Leu Val Val Pro Val
 1 5 10 15
 Val Ile Gly Ala Ile Leu Ile Gly Val Ser Met Met Gly Lys Lys Glu
 20 25 30
 Ser Ala Gln Ser Gln Gly Ala Ala Thr Pro Thr Val Thr Ser Glu Glu
 35 40 45
 Ala Ala Thr Leu Gly Ile Asp Gly Asp Thr Pro Ala Asp Thr Leu Arg
 50 55 60
 Thr Ile Val Ala Glu Ser Arg Gln Leu Lys Asp Gln Ile Ser Lys Val
 65 70 75 80
 Ile Gln Glu Asn Asp Ser Leu Lys Ala Ala Asn Glu Asn Leu Gln Gly
 85 90 95
 Arg Leu Arg Asn Ile Asp Gln Asn Ile Glu Gln Lys Leu Asn Asn Thr
 100 105 110
 Ala Gln Glu Leu Gln Gln Gln Gln Glu Asn Arg Ser Gln Thr Ile Leu
 115 120 125
 Asp Gln Val Gln Lys Arg Leu Glu Asn Leu Thr His Ile Pro Glu Ala
 130 135 140
 Gly Asp Thr Asp Leu Pro Val Gly Phe Gly Val Arg Pro Lys Asp Gly
 145 150 155 160
 Gln His Phe Gln Gly Ala Gly Ser Ser Ser Ser Asp Ile Val Trp Ile
 165 170 175
 Glu Pro Gln Asp Ala Arg Ala Val Asp Ala Asn Gly Gln Pro Leu Ala
 180 185 190
 Ala Gly Ser Thr Thr Gln Pro Ser Gly Phe Ser Phe Pro Thr Ser Phe
 195 200 205
 Gly Asn Ala Val Asp Arg Gly Gln Asn Ala Leu Glu Arg Ile Asp Asp
 210 215 220
 Gly Leu His Pro Val Gly Gln Gln Arg Ser Asp Leu Glu Asn Arg Lys
 225 230 235 240
 Leu Val Arg Lys Thr Tyr Thr Leu Pro Gln Asn Ser Thr Leu Met Gly
 245 250 255
 Ser Val Ala Met Phe Ala Leu Ile Gly Arg Val Pro Val Asp Gly Thr
 260 265 270
 Val Asn Asp Pro Tyr Pro Phe Lys Ile Leu Ile Gly Pro Asp Asn Leu
 275 280 285
 Thr Ala Asn Gly Ile Glu Leu Pro Asp Val Ala Gly Ala Val Ala Ser
 290 295 300
 Gly Thr Ala Ser Gly Asp Trp Thr Leu Ser Cys Val Arg Gly Gln Ile
 305 310 315 320
 Arg Ser Leu Thr Phe Val Phe Asn Asp Gly Thr Val Arg Thr Phe Pro
 325 330 335
 Ala Pro Ala Glu Glu Val Asn Asp Asn Gln Ser Asn Asn Asn Gln Thr
 340 345 350
 Ala Ser Ala Asp Gln Lys Thr Ile Gln Gly Gly Leu Gly Trp Ile Ser
 355 360 365
 Asp Pro Tyr Gly Ile Pro Cys Ile Ala Gly Asp Arg Arg Ser Asn Ala
 370 375 380
 Lys Glu Tyr Leu Gly Asn Gln Ser Leu Leu Thr Ala Ala Gly Ala Gly
 385 390 395 400
 Ile Ala Lys Leu Leu Asp Ala Asp Glu Asn Asn Thr Ser Thr Val Phe
 405 410 415
 Ser Gly Asn Gly Thr Ser Phe Gly Thr Thr Gly Thr Asn Ser Asn Ser

<210> 129
 <211> 219
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 129
 Met Ser Phe Arg Lys His Thr Ala Gln Gln Gln Ala His Ile Asn Thr
 1 5 10 15
 Phe Arg Phe Ile Thr Gly Phe Leu Cys Met Val Ile Val Val Leu Ala
 20 25 30
 Tyr Cys Val Trp Glu Ala Arg Lys Asp Leu Trp Ile His Ile Pro Pro
 35 40 45
 Asp Leu Arg Ser Gly Ser Thr Arg Leu Trp Trp Asp Ile Pro Pro Glu
 50 55 60
 Ser Val Tyr Ala Phe Gly Leu Tyr Ile Phe Gln Gln Val Gln Arg Trp
 65 70 75 80
 Pro Lys Asp Gly Glu Val Asp Tyr Lys Gly Asn Leu Phe Arg Tyr Ala
 85 90 95
 Ala Tyr Leu Thr Pro Ser Cys Lys Val Phe Leu Glu Lys Asp Phe Glu
 100 105 110
 Phe Arg Arg Asn Ala Gly Glu Leu Arg Gly Arg Glu Arg Thr Thr Ser
 115 120 125
 Glu Ile Pro Gly Arg Gly Ile Gly Glu Ser Asn Gly Arg Val Ile Gln
 130 135 140
 His Ser Ile Asn Asp Trp Thr Val Asn Leu Asp Met Asp Ser Thr Glu
 145 150 155 160
 Tyr Tyr Ala Gly Glu Lys Ile Lys Arg Ala Leu Ala Arg Tyr Pro Leu
 165 170 175
 His Val Ile Arg Ala Asp Val Asp Pro Glu Thr Asn Pro Phe Gly Leu
 180 185 190
 Gln Trp Asp Cys Tyr Ser Asp Thr Pro Gln Arg Ile Glu Leu Glu Glu
 195 200 205
 Pro Ala Ala Pro Thr Lys Arg Glu Gly Gly Leu
 210 215

<210> 130
 <211> 128
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 130
 Met Pro Glu Glu His Leu Phe Gln Asp Gly Thr Leu Ser Phe Leu Pro
 1 5 10 15
 Thr Arg Leu Asn Arg Gln Pro Val Val Ile Gly Gly Leu Thr Ala Asp
 20 25 30
 Glu Met Trp Ile Thr Val Phe Thr Ser Gly Ala Ala Gly Phe Val Leu
 35 40 45
 Gly Ile Pro Ala Ala Leu Val Ala Gly Asn Ala Ala Cys Ile Pro Leu
 50 55 60
 Gly Ala Leu Leu Val Gly Ala Leu Gly Leu Gly Ile Gly Ser Arg Val
 65 70 75 80
 Leu Arg Arg Met Lys Arg Gly Arg Pro Asp Thr Trp Phe Tyr Arg Gln
 85 90 95
 Val Glu Met Ala Leu Ser Leu Arg Phe Pro Val Phe Gly Asn Arg Arg
 100 105 110
 Leu Val Thr Arg Ser Gly Ala Trp Thr Ser Arg Arg Thr Glu Ser Pro
 115 120 125

<210> 131
 <211> 118
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 131
 Met Leu Lys Leu Thr Leu Gln Lys Leu Ser Ala Leu Cys Gln Ser Leu
 1 5 10 15
 Ala Ala Ile Thr Leu Ala Leu Pro Gly Ile Ala Leu Ala Ala Leu Pro
 20 25 30
 Lys Pro Glu Ala Pro Ser Arg Gly Glu Gly Ser Gly Ile Met Gln Thr
 35 40 45
 Ile Gln Asn Phe Gly Tyr Asp Gly Ala Met Leu Leu Ala Leu Leu Ile
 50 55 60
 Cys Ala Ala Val Phe Leu Gly Val Ala Trp His Thr Tyr Gly Thr Tyr
 65 70 75 80
 His Ala Ile His Asp Gly Lys Lys Lys Trp Ser Asp Leu Gly Ala Gly
 85 90 95
 Val Ala Val Gly Val Gly Leu Leu Ile Leu Ile Ile Tyr Leu Val Thr
 100 105 110
 Lys Ala Thr Ala Ile Met
 115

<210> 132
 <211> 123
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 132
 Met Ser Met Ser Gly Ala Gln Thr Ser Ala Phe Gln Ala Ala Ala Gly
 1 5 10 15
 Phe Pro Pro Ser Ala Gly Glu Gly Leu Phe Ile Gly Ala Ala Met Thr
 20 25 30
 Phe Leu Leu Leu Trp Ser Ala Trp Ala Met Tyr Ser Thr Trp Arg Gly
 35 40 45
 Trp Ala Thr Asn Asn Leu Arg Gln Arg His Arg Trp Arg Phe Arg Asp
 50 55 60
 Pro Gly Ser Trp Ser Ser Ala Ser Pro Leu Ser Ser Ser Ser Ala
 65 70 75 80
 Asp Pro Tyr Gly Asp Thr His Ala Glu Thr His Pro Pro Glu Thr Val
 85 90 95
 Arg Pro Leu Pro Glu Pro Gly Arg His His Phe Gly Ala Pro Arg Tyr
 100 105 110
 Arg Leu Gly Cys Thr Pro Gln Thr Arg Gly Thr
 115 120

<210> 133
 <211> 119
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 133
 Leu Ile Cys Thr Arg Phe Ala Val Asn Thr Pro His Pro Ser Leu Arg
 1 5 10 15
 Arg Ser Cys Leu Ala Val Leu Ala Cys Ser Ala Leu Val Ala Gln Gly
 20 25 30
 Ala Phe Ala Ala Ser Ala Ser Glu Gln Ala Asn Leu Glu Val Met Ile

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | 35 | | | | | 40 | | | | | 45 | | | | | | |
| Arg | Gln | Leu | Asn | Ala | Leu | Glu | Asp | Thr | Ala | Arg | Arg | Ser | Ala | Gln | Gly | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Ala | Asp | Glu | Pro | Gly | Gln | Arg | Phe | Tyr | Phe | Asp | Tyr | Pro | Arg | Leu | Ala | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Ala | Asp | Leu | Gln | Arg | Ile | Arg | Gln | Gly | Leu | Gln | Asp | Tyr | Met | Thr | Pro | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Ser | Arg | Ala | Gln | Pro | Arg | Asp | Pro | Ser | Asp | Leu | Ser | Gly | Asn | Tyr | Thr | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| Leu | Arg | Gly | Gly | Pro | Met | Pro | | | | | | | | | | | |
| | | 115 | | | | | | | | | | | | | | | |

<210> 134
 <211> 101
 <212> PRT
 <213> Pseudomonas aeruginosa

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | | | | | | | | | | | | | | |
| Met | Ser | Ile | Lys | Gln | Pro | Phe | Glu | Tyr | His | Val | Glu | Asn | Ile | Val | Ile | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Pro | Tyr | Lys | Thr | Leu | Thr | Lys | Gly | Val | Ala | Met | Phe | Lys | His | Lys | Glu | | |
| | | 20 | | | | | 25 | | | | | | 30 | | | | |
| Asp | Thr | Leu | Glu | Pro | Asp | Asp | His | Ala | Leu | Leu | Asn | Pro | Leu | Arg | Trp | | |
| | | 35 | | | | 40 | | | | | 45 | | | | | | |
| Ala | Glu | Val | Val | Arg | Leu | Gly | Gln | Glu | Gly | Trp | Glu | Leu | Val | Ser | Val | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Gln | Pro | Leu | Met | Arg | Gly | Val | Thr | Glu | Ile | Gly | Asn | Gln | Asn | Ala | Gln | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Gly | Trp | Ala | Trp | Gly | Val | Ala | Leu | Pro | Val | Ser | Tyr | Leu | Leu | Phe | Phe | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Lys | Arg | Ala | Thr | Ser | | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | | | |

<210> 135
 <211> 103
 <212> PRT
 <213> Pseudomonas aeruginosa

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | | | | | | | | | | | | | | |
| Met | Leu | Arg | Asn | Ile | Ser | Ile | Gly | Val | Leu | Leu | Ala | Met | Ala | Ala | Met | | |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | | | |
| Leu | Gly | Ser | Tyr | Gly | Val | Ala | Ala | Ala | Thr | Leu | Arg | Cys | Gly | Ser | Ala | | |
| | | 20 | | | | | 25 | | | | | | 30 | | | | |
| Ile | Val | Ser | Glu | Gly | Asp | Leu | Ile | Asp | Asp | Val | Leu | Arg | Lys | Cys | Gly | | |
| | | 35 | | | | 40 | | | | | 45 | | | | | | |
| Asn | Pro | Asp | Ser | Arg | Lys | Ile | Glu | Gly | Pro | Ala | Val | Asp | Gly | Ser | Gly | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Tyr | Ile | Val | Arg | Gly | Ala | Ala | Thr | Val | Glu | Asn | Trp | Val | Tyr | Gly | Pro | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Arg | Asn | Gly | Trp | Tyr | Gln | Lys | Leu | Arg | Phe | Val | Asp | Gly | Arg | Leu | Val | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Gln | Ile | Lys | Gly | Ser | Met | Asp | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | | | |

<210> 136
 <211> 385

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 136

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Met | Lys | Leu | Ile | Leu | Asp | Phe | Asp | Gly | Arg | Leu | Leu | Asn | Pro | Ser | Asn | |
| 1 | | | | 5 | | | | | 10 | | | | | | 15 | |
| Met | Leu | Glu | Ala | Leu | Ser | Lys | Ala | Gly | Lys | Asn | Thr | Ser | Ile | Ser | Ile | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Ser | Asn | Ala | Gln | Ala | Leu | Asn | Ile | Glu | Thr | Leu | Leu | Lys | Ala | Thr | Thr | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Thr | Ala | Glu | Asn | Thr | Lys | Asn | Leu | Ser | Thr | Thr | Phe | Asn | Gly | Ala | Glu | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Leu | Thr | Ala | Asn | Asn | Leu | Gln | Gln | Val | Ile | Asn | Ser | Ala | Gly | Ser | Leu | |
| 65 | | | | 70 | | | | | | 75 | | | | | 80 | |
| Thr | Arg | Val | Ser | Thr | Ile | Ala | Ala | Gln | Ala | Ile | Asn | Ile | Asn | Thr | Leu | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Leu | Ser | Ala | Ile | Ser | Thr | Ala | Gly | Asn | Ser | Lys | Asn | Phe | Ser | Ala | Glu | |
| | | 100 | | | | | 105 | | | | | | 110 | | | |
| Phe | Asn | Gly | Ala | Gln | Leu | Ser | Ser | Asp | Asn | Leu | Leu | Arg | Ala | Val | Asn | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Ala | Ala | Gly | Thr | Asn | Thr | Ser | Ile | Ser | Val | Asn | Thr | Ala | Gln | Ala | Ala | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Asn | Ile | Thr | Ala | Leu | Leu | Gln | Thr | Ile | His | Ala | Ala | Gly | Asp | Thr | Lys | |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 | |
| Thr | Phe | Ser | Ala | Glu | Phe | Asn | Gly | Ala | Gln | Leu | Thr | Ser | Asn | Asn | Ile | |
| | | | 165 | | | | | 170 | | | | | | 175 | | |
| Gln | Gln | Ala | Leu | Asp | Ala | Ala | Gly | Thr | Arg | Thr | Ser | Ile | Ser | Val | Asn | |
| | | 180 | | | | | 185 | | | | | | 190 | | | |
| Thr | Ala | Gln | Ala | Val | Asn | Ile | Ser | Thr | Leu | Leu | Ala | Leu | Ile | Asn | Ser | |
| | 195 | | | | | | 200 | | | | | | 205 | | | |
| Ala | Lys | Asp | Thr | Lys | Lys | Phe | Ser | Ala | Asp | Phe | Asn | Gly | Ala | Gln | Leu | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Thr | Ala | Asp | Asn | Leu | Gln | Ala | Ile | Ser | Ala | Ala | Ala | Ser | Gly | Thr | | |
| 225 | | | | 230 | | | | | 235 | | | | | 240 | | |
| Asn | Ile | Ser | Val | Asn | Thr | Ala | Gln | Ala | Ala | Asn | Ile | Ser | Thr | Leu | Leu | |
| | | | 245 | | | | | | 250 | | | | | 255 | | |
| Gln | Ala | Ile | Asn | Ile | Ala | Gly | Asn | Thr | Lys | Lys | Phe | Ser | Ala | Asn | Phe | |
| | | 260 | | | | | 265 | | | | | | 270 | | | |
| Asn | Gly | Ala | Gln | Leu | Thr | Ser | Asn | Asn | Ile | Gln | Gln | Ala | Leu | Arg | Ala | |
| | 275 | | | | | | 280 | | | | | 285 | | | | |
| Thr | Gly | Ser | Asn | Thr | Ser | Ile | Ser | Met | Asn | Ser | Ala | Gln | Ser | Ala | Asn | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Gln | Ser | Thr | Leu | Leu | Glu | Leu | Leu | Asp | Ile | Ala | Ser | Ser | Ser | Lys | Gln | |
| 305 | | | | 310 | | | | | | 315 | | | | | 320 | |
| Phe | Gln | Ala | Asn | Tyr | Asn | Gly | Gly | Met | Ser | Asn | Pro | Asn | Asn | Leu | Gln | |
| | | | 325 | | | | | | 330 | | | | | 335 | | |
| Gln | Ile | Val | Phe | Pro | Cys | Arg | Arg | Gln | Tyr | Asn | Arg | Val | Tyr | Phe | Arg | |
| | | 340 | | | | | | 345 | | | | | 350 | | | |
| Arg | Thr | Arg | Pro | Thr | Asn | Arg | Lys | Tyr | Pro | Tyr | Pro | Tyr | Ile | Ile | Cys | |
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| Arg | Met | Arg | Leu | Ile | Ala | Val | Asp | Glu | Asn | Thr | Pro | Ser | Thr | Ala | Ile | |
| | 370 | | | | | 375 | | | | | | | 380 | | | |
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<211> 493

<212> PRT

<213> Pseudomonas aeruginosa

<400> 137

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| Val | Gln | Trp | Thr | His | Glu | Gln | Ser | Pro | Ile | Ile | Gln | Ser | Lys | Ala | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Ile | Leu | Val | Arg | Ala | Phe | Ala | Gly | Thr | Gly | Lys | Thr | Thr | Thr | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Gly | Phe | Ala | Arg | Ser | Asn | Pro | Thr | Leu | Arg | Ile | Leu | Tyr | Leu | Cys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Tyr | Asn | Ser | Ser | Val | Glu | Lys | Ala | Ala | Lys | Gly | Lys | Phe | Pro | Arg | Asn |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Val | Val | Cys | Lys | Thr | Ala | His | Ser | Leu | Ala | His | Ala | Val | Tyr | Gly | Ile |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gln | Tyr | Ala | His | Lys | Lys | Thr | Lys | Asn | Leu | Arg | Leu | Thr | Asp | Ile | Ala |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Arg | Gly | Leu | Asp | Thr | Gln | Asp | Trp | Glu | Leu | Val | Arg | Asp | Val | Leu | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Thr | Leu | Asn | Asn | Tyr | Met | Ala | Ser | Ala | Asp | Ala | Glu | Leu | Gly | Arg | Pro |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Phe | Pro | Arg | Phe | Arg | Asp | Lys | Ala | Phe | Leu | Thr | Ser | Ala | Gln | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Arg | Phe | Leu | Lys | Gln | Gly | Leu | Asp | Met | Ala | Arg | Val | Val | Trp | Arg | Arg |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Met | Val | Asp | Leu | Gln | Asp | Thr | Gly | Met | Leu | Met | Pro | Leu | Asp | Gly | Tyr |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Leu | Lys | Leu | Tyr | Gln | Leu | Ser | Lys | Pro | Asp | Leu | Ser | Gln | Arg | Phe | Asp |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Cys | Met | Leu | Leu | Asp | Glu | Gly | Gln | Asp | Ile | Asn | Pro | Val | Ile | Ala | Asp |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Ile | Ala | His | Trp | Gln | Arg | Ile | Arg | Met | Ala | Ile | Val | Gly | Asp | Pro | His |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Gln | Gln | Leu | Tyr | Arg | Phe | Arg | Gly | Ala | Glu | Asp | Ala | Leu | Asn | Ser | Asp |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Trp | Met | Ala | Gly | Ala | Glu | Glu | His | Tyr | Leu | Thr | Gln | Ser | Trp | Arg | Phe |
| | | | 245 | | | | | 250 | | | | | | 255 | |
| Gly | Pro | Ala | Ile | Ala | His | Val | Ala | Asn | Ile | Ile | Leu | Ser | Tyr | Lys | Gly |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Glu | Thr | Arg | Lys | Leu | Gln | Gly | Leu | Gly | Pro | Gln | Thr | Leu | Val | Lys | Lys |
| | | 275 | | | | 280 | | | | | | 285 | | | |
| Ser | Leu | Pro | Pro | Asp | Leu | Pro | His | Arg | Thr | Phe | Ile | His | Arg | Thr | Val |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ile | Gly | Val | Ile | Glu | Asn | Ala | Leu | Gln | Leu | Val | Arg | Asn | His | Pro | Glu |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Pro | Lys | Phe | His | Trp | Val | Gly | Gly | Ile | Asp | Ser | Tyr | Ser | Leu | Arg | Asp |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Leu | Glu | Asp | Leu | Tyr | Ala | Phe | Ser | Arg | Gly | Leu | Arg | Gln | Asn | Val | Gln |
| | | 340 | | | | | | 345 | | | | | 350 | | |
| Asn | Lys | Lys | Leu | Leu | Arg | Asp | Tyr | Arg | Asp | Tyr | Thr | Gln | Tyr | Val | Glu |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Ile | Ala | Glu | Ile | Ser | Gln | Asp | Gly | Glu | Met | Leu | Arg | Ser | Ile | Lys | Ile |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Ile | Ser | Thr | Tyr | Pro | Asp | Leu | Pro | Ala | Arg | Ile | Leu | Glu | Leu | Arg | Ser |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Leu | Thr | Leu | Asp | Asp | Glu | Leu | Asp | Ala | Thr | Ile | Thr | Leu | Thr | Thr | Ala |
| | | | 405 | | | | | | 410 | | | | | 415 | |
| His | Lys | Ala | Lys | Gly | Leu | Glu | Trp | Asp | Phe | Val | Cys | Leu | Tyr | Asp | Asp |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Phe | Asn | Ala | Asp | Pro | Leu | Ala | Pro | Asp | Thr | Asp | Pro | Gly | Lys | Arg | Asp |
| | | 435 | | | | | 440 | | | | | | 445 | | |

Asp Glu Leu Asn Leu Ile Tyr Val Ala Val Thr Arg Ala Met Lys Ile
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 465 470 475 480
 Asp Arg Lys Leu Lys Glu Gln Ile Ala Ser Cys Lys Lys
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 Glu Tyr Glu Leu Ser Trp Leu Ser Gln Gly Leu Leu His Ser Val Val
 35 40 45
 Val Gln Glu Pro Gly Arg Thr Ala Thr Trp Leu Ala Gln Leu Ala Tyr
 50 55 60
 Asp Trp Leu Phe Val Lys Thr Gly Met Val Asp Trp Met Thr Asn Met
 65 70 75 80
 Thr Thr Ile Ala Gln Ala Arg Pro Arg Ser Pro Leu Asp Val Arg Tyr
 85 90 95
 Leu Thr Ala His Gly Val Ser Thr Leu Gln Asn Tyr Gly Leu Ala Ala
 100 105 110
 Leu Tyr Thr Val Leu Thr Phe Val Val Arg Leu Val Ile Leu Val Met
 115 120 125
 Thr Ile Pro Leu Phe Val Met Ala Ala Phe Thr Gly Leu Val Asp Gly
 130 135 140
 Leu Val Arg Arg Asp Leu Arg Lys Phe Gly Ala Gly Arg Glu Ser Ser
 145 150 155 160
 Tyr Leu Tyr His Lys Ala Arg Gly Ser Ile Ile Pro Leu Ala Val Val
 165 170 175
 Pro Trp Thr Leu Tyr Leu Ala Ile Pro Ile Ser Ile Asn Pro Leu Leu
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 Ala Ser Thr Phe Lys Lys Tyr Leu
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<210> 139
 <211> 931
 <212> PRT
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 35 40 45
 His Gln Val Ser Leu Ser Arg Gln Ala Met Asn Val Ala Met Tyr Glu
 50 55 60
 Ala Gln Leu Tyr Phe Glu Gln Arg Glu Ala Leu Leu Asn His Leu Ser

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gly | Asn | Val | Val | Pro | Leu | Ala | Ala | Gly | Arg | Ala | Leu | Val | Asn | Glu | Ala |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Pro | Asn | Asn | Val | Ser | Ile | Leu | Pro | Leu | Ser | Asp | Gly | Gly | Arg | Gly | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Leu | Thr | Ala | Arg | Thr | Leu | Gly | Asp | Leu | Arg | Glu | Lys | Arg | Leu | Ala |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Met | Tyr | Leu | Val | Asp | Thr | Asp | Lys | Gly | Pro | Leu | Val | Tyr | Arg | Leu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Thr | Ala | Asp | Gly | Arg | Pro | Ser | Ala | Ala | Ile | Ser | Ser | Thr | Ile | Thr | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Glu | Val | Tyr | Arg | Ala | Leu | Leu | Ala | Thr | Pro | Ser | Ala | Pro | Val | His | Trp |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Val | Thr | Asp | Gly | Gly | Thr | Pro | Gln | Arg | Leu | Tyr | Leu | Phe | Glu | Ser | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Gly | Asp | Glu | Pro | Gly | Glu | Gly | Trp | Leu | Gly | Leu | Glu | Ile | Leu | Gly | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Asp | Leu | Asp | Ser | Met | Leu | Arg | Arg | Asn | Asp | Ala | Gly | Asn | Tyr | Met | Leu |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Leu | Asp | Gln | His | Gly | Gln | Val | Val | Leu | Ala | Thr | Asp | Ala | Glu | Ala | Leu |
| 225 | | | | | 230 | | | | 235 | | | | | | 240 |
| Gly | Ser | Gly | Ala | Ser | Arg | Thr | Leu | Leu | Arg | Gly | Asp | Gly | Phe | Gly | Phe |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ile | Gly | Ala | Gly | Pro | Leu | Pro | Gln | His | Met | Val | Leu | Phe | Gln | His | Val |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Gly | Ser | Ser | Ser | Trp | Asp | Leu | Ile | Tyr | His | Ile | Gly | Ile | Gly | Arg | Leu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Leu | Leu | Ala | Leu | Trp | Leu | Pro | Leu | Leu | Leu | Ala | Ser | Ala | Leu | Ala | Leu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ala | Val | Gly | Ile | Leu | Leu | His | Trp | Leu | Val | Arg | Ser | Ile | Glu | Arg | Arg |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Ile | Glu | Pro | Ala | Lys | Arg | Arg | Leu | Glu | Ala | Leu | Lys | Glu | Ser | Glu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ala | Phe | Ser | Arg | Ala | Val | Ile | Gln | Ala | Ala | Pro | Val | Ala | Leu | Cys | Val |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Leu | Arg | Arg | Ala | Asp | Ala | Ala | Val | Val | Leu | Glu | Asn | Pro | Gln | Ala | Arg |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Gln | Trp | Leu | Gly | Asp | Ser | Glu | Ala | Ile | Ala | His | Asp | Ala | Pro | Arg | Trp |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Ile | Ser | Gln | Ala | Phe | Ala | Gly | Gly | Val | Lys | Cys | Ser | Gly | Glu | Glu | Leu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Glu | Thr | Glu | Ala | Gly | Leu | His | Leu | His | Leu | Asn | Tyr | Thr | Pro | Thr | Arg |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Tyr | Asn | Gly | Glu | Asp | Val | Leu | Phe | Cys | Ala | Phe | Ser | Glu | Ile | Ser | Ala |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Arg | Lys | Arg | Met | Glu | Ala | Glu | Leu | Ala | Arg | Ala | Lys | Ser | Leu | Ala | Asp |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Ala | Ala | Asn | Glu | Ala | Lys | Thr | Leu | Phe | Leu | Ala | Thr | Met | Ser | His | Glu |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Ile | Arg | Thr | Pro | Leu | Tyr | Gly | Met | Leu | Gly | Thr | Leu | Glu | Leu | Leu | Gly |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Arg | Thr | Glu | Leu | Ser | Arg | Gln | Gln | Ala | Gly | Tyr | Leu | Lys | Ala | Ile | Gln |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| His | Ser | Ser | Ser | Thr | Leu | Leu | Gln | Leu | Ile | Ser | Asp | Val | Leu | Asp | Val |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ser | Lys | Ile | Glu | Ala | Gly | Gln | Leu | Asp | Leu | Glu | Cys | Val | Glu | Phe | Ser |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Pro | Leu | Glu | Leu | Thr | Glu | Glu | Val | Val | Gln | Ser | Phe | Thr | Gly | Ala | Ala |
| | 530 | | | | | 535 | | | | | | 540 | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Ala | Lys | Gly | Leu | Gln | Leu | Tyr | Thr | Cys | Leu | Ser | Ala | Glu | Leu | Pro |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Leu | Arg | Met | Arg | Gly | Ala | Ala | Ala | Ser | Ile | Arg | Gln | Ile | Leu | Asn | Asn |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Leu | Leu | Ser | Asn | Ala | Val | Lys | Phe | Thr | Asp | Asn | Gly | Tyr | Val | Asn | Val |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| His | Leu | Lys | Ala | Ser | Val | Val | Asp | Ala | Glu | Cys | Val | Met | Leu | Thr | Trp |
| | | 595 | | | | | 600 | | | | | 605 | | | |
| Gln | Val | Asn | Asp | Thr | Gly | Met | Gly | Ile | Asn | Val | Glu | Asp | Gln | Pro | Arg |
| | 610 | | | | | 615 | | | | | 620 | | | | |
| Leu | Phe | Glu | Pro | Phe | Tyr | Gln | Ile | Arg | Arg | Ser | Glu | His | Pro | Val | Ala |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 |
| Gly | Thr | Gly | Leu | Gly | Leu | Ser | Ile | Ser | Gln | Arg | Leu | Ala | Gln | Leu | Met |
| | | | | 645 | | | | | 650 | | | | | 655 | |
| Asn | Gly | Ser | Leu | Lys | Leu | Val | Ser | Glu | Leu | Gly | Leu | Gly | Ser | Ser | Phe |
| | | | 660 | | | | | 665 | | | | | 670 | | |
| Ser | Leu | Arg | Leu | Pro | Leu | Glu | Arg | Ile | Ala | Met | Gln | Ala | Glu | Pro | Gln |
| | | 675 | | | | | 680 | | | | | 685 | | | |
| Asp | Leu | Ala | Gly | Cys | Ala | Val | Gln | Val | Leu | Ala | Pro | Val | Arg | Asp | Leu |
| | 690 | | | | | 695 | | | | | 700 | | | | |
| Thr | Glu | Cys | Leu | Cys | Gly | Trp | Ile | Ser | Arg | Trp | Gly | Gly | Arg | Ala | Met |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 |
| Val | Ala | Thr | Pro | Arg | Ser | Leu | Asp | Glu | Ala | Asp | Ala | Thr | Ser | Leu | Leu |
| | | | | 725 | | | | | 730 | | | | | 735 | |
| Val | Lys | Val | Leu | Leu | Glu | Gly | Ala | Pro | Met | Phe | Glu | Ala | Trp | Pro | |
| | | | 740 | | | | 745 | | | | | 750 | | | |
| Gly | Cys | Arg | Val | Glu | Leu | Ser | Pro | Gln | Gly | Asp | Met | Glu | Pro | Gln | Ala |
| | | 755 | | | | | 760 | | | | | 765 | | | |
| Gln | Gly | Arg | Asp | Trp | Leu | Leu | Gly | Leu | Asn | Asn | Leu | Asn | Gly | Leu | His |
| | 770 | | | | 775 | | | | | | 780 | | | | |
| Arg | Ala | Leu | Gly | Leu | Ala | His | Gly | Arg | Leu | Ala | Asp | Pro | Ser | Thr | Pro |
| 785 | | | | | 790 | | | | | 795 | | | | | 800 |
| Pro | Ile | Arg | Leu | Ala | Pro | Leu | Arg | Asn | Leu | Gly | Leu | Arg | Val | Leu | Val |
| | | | | 805 | | | | | 810 | | | | | 815 | |
| Val | Glu | Asp | Asn | Ala | Ile | Asn | Gln | Leu | Ile | Leu | Arg | Asp | Gln | Met | Glu |
| | | | 820 | | | | | 825 | | | | | 830 | | |
| Ala | Leu | Gly | Cys | Ser | Val | Glu | Leu | Leu | Phe | Asp | Gly | Arg | Glu | Ala | Leu |
| | | 835 | | | | | 840 | | | | | 845 | | | |
| Leu | His | Cys | Gln | Thr | Ala | Cys | Phe | Asp | Val | Val | Leu | Thr | Asp | Ile | Asn |
| | 850 | | | | | 855 | | | | | 860 | | | | |
| Met | Pro | Asn | Met | Asn | Gly | Tyr | Glu | Leu | Thr | Ala | Glu | Leu | Arg | Arg | Gln |
| 865 | | | | | 870 | | | | | 875 | | | | | 880 |
| Gly | Phe | Arg | Gln | Pro | Ile | Ile | Gly | Ala | Thr | Val | Asn | Ala | Met | Arg | Glu |
| | | | | 885 | | | | 890 | | | | | | 895 | |
| Glu | Arg | Glu | Arg | Cys | Met | Ser | Ala | Gly | Met | Asn | Asp | Cys | Leu | Val | Lys |
| | | | 900 | | | | | 905 | | | | | 910 | | |
| Pro | Val | Asp | Leu | Asn | Ala | Leu | Gln | Asn | Cys | Leu | Ile | Asn | Ile | Leu | Lys |
| | | 915 | | | | | 920 | | | | | | 925 | | |
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| | 930 | | | | | | | | | | | | | | |

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<211> 399

<212> PRT

<213> Pseudomonas aeruginosa

<400> 140

Met Ser Trp Lys Ser Tyr Arg Val Leu Val Val Glu Asp Gln Pro Phe

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| 1 | | 5 | | 10 | | 15 | | | | | | | | | |
| Gln | Arg | Glu | Tyr | Leu | Leu | Asn | Leu | Phe | Arg | Glu | Arg | Gly | Val | Gln | Tyr |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Leu | Val | Gly | Ala | Gly | Asp | Gly | Ala | Glu | Ala | Leu | Arg | Cys | Leu | Lys | Gln |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Arg | Phe | Asp | Leu | Ile | Leu | Ser | Asp | Leu | Met | Met | Pro | Gly | Met | Asp |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Gly | Ile | Gln | Met | Ile | Leu | Gln | Leu | Pro | Tyr | Leu | Lys | His | Arg | Pro | Lys |
| | | | | 70 | | | | | | 75 | | | | | 80 |
| Leu | Ala | Leu | Met | Ser | Ser | Ser | Ser | Gln | Arg | Met | Met | Leu | Ser | Ala | Ser |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Arg | Val | Ala | Gln | Ser | Leu | Gly | Leu | Ser | Val | Ile | Asp | Leu | Leu | Pro | Lys |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Pro | Thr | Leu | Pro | Lys | Ala | Ile | Gly | Gln | Leu | Leu | Glu | His | Leu | Glu | Arg |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Cys | Leu | Arg | Gln | Lys | Leu | Glu | Pro | Glu | Thr | Asp | Glu | Thr | Pro | His | Gly |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Arg | Thr | Ala | Leu | Leu | Asp | Ala | Leu | His | Asn | Glu | Gln | Leu | Val | Thr | Trp |
| | | | | 150 | | | | | | 155 | | | | | 160 |
| Phe | Gln | Ala | Lys | Lys | Ser | Leu | His | Thr | Gly | Arg | Ile | Val | Gly | Ala | Glu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Leu | Ile | Arg | Trp | Ser | His | Pro | Gln | His | Gly | Leu | Leu | Leu | Pro | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Cys | Phe | Met | Ser | Asp | Val | Asp | Ala | Thr | Gly | Leu | His | Glu | Ala | Leu | Leu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Trp | Arg | Val | Leu | Glu | Gln | Thr | Leu | Asn | Ala | Gln | Glu | Ser | Trp | Arg | Arg |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Ala | Gly | Tyr | Glu | Ile | Pro | Val | Ser | Val | Asn | Leu | Pro | Pro | His | Leu | Leu |
| | | | | 230 | | | | | | 235 | | | | | 240 |
| Asp | Asn | Gln | Glu | Leu | Pro | Asp | Arg | Leu | Tyr | Glu | Tyr | Val | Gly | Ala | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Gly | Ala | Cys | Thr | Ser | Ser | Leu | Cys | Phe | Glu | Leu | Thr | Glu | Ser | Ser | Val |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Thr | Thr | Leu | Ser | Ser | Asn | Tyr | Tyr | Ala | Gly | Ala | Cys | Arg | Leu | Arg | Met |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Lys | Gly | Phe | Gly | Leu | Ala | Gln | Asp | Asp | Phe | Gly | Gln | Gly | Tyr | Ser | Ser |
| | | 290 | | | | 295 | | | | | 300 | | | | |
| Phe | Tyr | Asn | Leu | Val | Thr | Thr | Pro | Phe | Thr | Glu | Leu | Lys | Ile | Asp | Arg |
| | | | | 310 | | | | | 315 | | | | | | 320 |
| Ser | Leu | Val | Gln | Gly | Cys | Val | Glu | Asp | Asn | Gly | Leu | Asn | Ala | Ala | Val |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ile | Ser | Cys | Ile | Glu | Leu | Gly | His | Arg | Leu | Asn | Leu | Asp | Val | Val | Ala |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Glu | Gly | Val | Glu | Thr | Cys | Glu | Glu | Leu | Asn | Leu | Leu | Arg | Arg | Leu | Gly |
| | | | 355 | | | | 360 | | | | | 365 | | | |
| Cys | Asp | Arg | Ala | Gln | Gly | Phe | Leu | Ile | Ser | Lys | Ala | Val | Ser | Ala | Arg |
| | | 370 | | | | 375 | | | | | 380 | | | | |
| Glu | Phe | Glu | Arg | Gln | Leu | Arg | Glu | Asp | Gly | Pro | Ser | Leu | Leu | Val | |
| | | | | | 390 | | | | | 395 | | | | | |

<210> 141

<211> 1084

<212> PRT

<213> Pseudomonas aeruginosa

<400> 141

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Lys | Ser | Ala | Ser | Ala | Leu | Glu | His | Asp | Asn | Lys | Leu | Leu | Leu | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Thr | Thr | Leu | Ser | Gln | Ser | Leu | Ser | Ile | Gly | Leu | Ile | Cys | Val | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Leu | Thr | Val | Leu | Leu | Phe | Ser | Ile | Cys | Tyr | Trp | Ser | Leu | Gly | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Phe | Gln | Glu | Glu | Glu | Asp | Lys | Val | Ser | Phe | His | Phe | Thr | Arg | Met |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Met | Asp | Val | Ile | Arg | Glu | His | Glu | Val | Phe | Leu | Gly | Arg | Ile | Ala | Arg |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Lys | Ser | Asp | Lys | Thr | Thr | Gln | Lys | Tyr | Asp | Tyr | Asp | Val | Val | Pro | Leu |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Gln | Arg | His | Leu | Leu | Ala | Lys | Glu | Asn | Gly | Leu | Ala | Val | Tyr | Glu | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Glu | Phe | Ser | Phe | Ala | Met | Pro | Phe | Leu | Leu | Ala | Thr | Lys | His | Ala |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Leu | Ser | Ala | Asp | Ser | Ser | Gly | Asp | Pro | Phe | Ser | Leu | Gly | Val | Leu | Leu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ala | Asn | Phe | Tyr | Gly | Ser | Phe | Trp | Ser | Val | Ser | Ala | Tyr | Pro | Ala | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gln | Leu | Leu | Ile | Phe | Asp | Leu | Ser | Gly | Ser | Thr | Arg | Leu | Ala | Val | Pro |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Ser | Ile | Pro | Ser | Thr | Ala | Gln | Arg | Asp | Arg | Leu | Ser | Gly | Ser | Tyr | Pro |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Met | Ile | Val | Glu | Arg | Ile | Leu | Ala | Arg | Leu | Arg | Thr | Arg | Pro | Val | Gly |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Glu | Asp | Ala | Gln | Arg | Val | His | Trp | Ile | Arg | Ala | Asp | Arg | Tyr | Arg | Asp |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ser | Ala | Leu | Glu | Met | Leu | Gly | Val | Ala | Arg | Val | Asp | Leu | Pro | Glu | Thr |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Leu | Trp | Trp | His | Asp | Glu | Pro | Asn | His | Leu | Ile | Ile | Ala | Ala | Ser | Leu |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Leu | Asp | Leu | Arg | Arg | Ile | Asn | Asp | Phe | Glu | Gln | Leu | Val | Glu | Arg | Pro |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Ala | Phe | Asp | Ser | Tyr | Ser | Leu | Val | Ser | Pro | Asp | Gly | Glu | Val | Leu | Leu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Gly | Ala | Ala | Pro | Ala | Thr | Gly | Leu | Arg | Asp | Gly | Leu | Asn | Leu | Thr | Arg |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Gln | Gly | Val | Ala | Val | Gln | Leu | Leu | Ser | Gln | Pro | Glu | Asn | Gly | Trp | Leu |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Ala | Val | Tyr | Arg | Thr | Asp | Tyr | Gly | Asn | Phe | Phe | Arg | His | Ser | Arg | Trp |
| | | | 325 | | | | | 330 | | | | | 335 | | |
| Leu | Val | Ala | Gly | Leu | Leu | Leu | Thr | Pro | Ala | Leu | Leu | Leu | Ala | Gly | Trp |
| | | 340 | | | | | | 345 | | | | | 350 | | |
| Leu | Gly | Met | Arg | Trp | Tyr | Thr | Ser | Ser | Val | Val | Asn | Pro | Val | His | Arg |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Ala | His | Arg | Gln | Leu | Val | Glu | Ser | Asp | Thr | Phe | Ser | Arg | Thr | Leu | Ile |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Gln | Thr | Ala | Pro | Val | Ala | Leu | Val | Val | Leu | Thr | Gln | Asp | Asp | Gln | Gln |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Leu | Val | Thr | Cys | Asn | His | Leu | Ala | Ala | Gln | Trp | Leu | Gly | Gly | Pro | Thr |
| | | | 405 | | | | | | 410 | | | | | 415 | |
| Glu | Ile | Leu | Gly | Leu | Thr | Ser | Asn | Trp | Lys | Leu | Phe | Asp | Ala | Arg | Gly |
| | | 420 | | | | | | 425 | | | | 430 | | | |
| Gln | Val | Pro | Gly | Asp | Ile | Cys | Ile | Gln | Val | Gly | Gly | Arg | Tyr | Leu | Gln |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Thr | Ala | Phe | Ala | Ala | Thr | Arg | Tyr | Ala | Gly | Thr | Glu | Ala | Val | Leu | Cys |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Val | Phe | Asn | Asp | Ile | Thr | Val | His | Cys | Glu | Ala | Glu | Thr | Ala | Leu | Ser |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Asn | Ala | Lys | Arg | Ala | Ala | Asp | Ala | Ala | Ser | Gln | Ala | Lys | Thr | Leu | Phe |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | 485 | | | | | 490 | | | | 495 | | |
| Leu | Ala | Arg | Met | Ser | His | Glu | Ile | Arg | Thr | Pro | Leu | Tyr | Gly | Val | Leu |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Gly | Thr | Leu | Glu | Leu | Leu | Asp | Leu | Thr | Thr | Leu | Asn | Glu | Arg | Gln | Arg |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Ala | Tyr | Leu | Arg | Thr | Ile | Gln | Ser | Ser | Ser | Ala | Thr | Leu | Met | Gln | Leu |
| | 530 | | | | | 535 | | | | | 540 | | | | |
| Ile | Ser | Asp | Val | Leu | Asp | Val | Ser | Lys | Ile | Glu | Ala | Gly | Gln | Met | Ala |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Leu | Thr | Leu | Ala | Ala | Phe | Asn | Pro | Leu | Asp | Leu | Val | Arg | Glu | Val | Leu |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Gly | Asn | Phe | Ala | Ala | Ser | Ala | Met | Ala | Lys | Asp | Leu | Gln | Phe | Tyr | Ala |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Cys | Ile | Asp | Thr | Glu | Val | Pro | Ala | Gln | Leu | Ile | Gly | Asp | Val | Thr | Arg |
| | | 595 | | | | | 600 | | | | | 605 | | | |
| Ile | Arg | Gln | Val | Leu | Asn | Asn | Leu | Val | Asn | Asn | Ala | Leu | Lys | Phe | Thr |
| | 610 | | | | | 615 | | | | | 620 | | | | |
| Asp | Ile | Gly | Arg | Val | Val | Leu | Arg | Val | Lys | Leu | Leu | Ser | Arg | Asn | Asp |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 |
| Gly | Arg | Ala | Leu | Leu | Gln | Trp | Gln | Val | Ala | Asp | Thr | Gly | Ile | Gly | Ile |
| | | | | 645 | | | | | 650 | | | | | 655 | |
| Ala | His | Glu | Gln | Gln | Glu | Arg | Leu | Phe | Glu | Ala | Phe | Tyr | Gln | Val | Ser |
| | | | 660 | | | | | 665 | | | | | 670 | | |
| Gly | Ala | His | His | Ala | Gly | Gly | Thr | Gly | Leu | Gly | Leu | Ser | Ile | Cys | Trp |
| | | 675 | | | | | 680 | | | | | 685 | | | |
| His | Leu | Ala | Glu | Met | Met | Gly | Gly | His | Leu | Arg | Met | Val | Ser | Glu | Thr |
| | 690 | | | | | 695 | | | | | 700 | | | | |
| Gly | Leu | Gly | Ser | Ser | Phe | Ser | Leu | Val | Leu | Glu | Leu | Pro | Glu | Asp | Glu |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 |
| Gln | Ser | Gly | Leu | Ala | Cys | Arg | Pro | Gly | Leu | Leu | Lys | Ser | Ala | Cys | Val |
| | | | | 725 | | | | | 730 | | | | | 735 | |
| His | Val | Arg | Ser | Pro | Val | Arg | Glu | Leu | Ala | Asp | Ser | Val | Gly | Ala | Trp |
| | | | 740 | | | | | 745 | | | | | 750 | | |
| Leu | Lys | Ala | Trp | Gly | Cys | Lys | Val | Ser | Ser | Gly | Glu | Ala | Ala | Pro | Ser |
| | | 755 | | | | | 760 | | | | | 765 | | | |
| Glu | Leu | Glu | Thr | Cys | Val | Leu | Leu | Glu | Leu | Leu | Pro | Met | Ala | Ala | Gly |
| | 770 | | | | | 775 | | | | | 780 | | | | |
| Pro | Ala | Ser | Ser | Pro | Trp | Pro | Gly | Pro | Arg | Val | Arg | Ala | Ser | Met | Asp |
| 785 | | | | | 790 | | | | | 795 | | | | | 800 |
| Ala | Pro | Cys | Gln | Pro | Glu | Leu | Arg | Glu | Asp | Gly | Trp | Arg | Val | Gly | Leu |
| | | | | 805 | | | | | 810 | | | | | 815 | |
| His | Asn | Leu | Ala | Gly | Ile | Gly | Gln | Ala | Leu | Ala | Gln | Ala | Leu | Gly | Gly |
| | | | 820 | | | | | 825 | | | | | 830 | | |
| Asp | Ile | Pro | Glu | Gln | Thr | Pro | Ala | Asn | Ala | Cys | Ala | Arg | Ser | Gly | Arg |
| | | 835 | | | | | 840 | | | | | 845 | | | |
| Leu | Asp | Leu | Glu | Val | Leu | Val | Ala | Glu | Asp | Asn | Pro | Val | Asn | Gln | Ala |
| | 850 | | | | | 855 | | | | | 860 | | | | |
| Leu | Leu | Arg | Glu | Gln | Leu | Glu | Glu | Leu | Gly | Cys | Arg | Val | Ser | Leu | Ala |
| 865 | | | | | 870 | | | | | 875 | | | | | 880 |
| Gly | Asp | Gly | Arg | Gln | Ala | Leu | Gln | Leu | Phe | Asp | Ser | Gly | Arg | Phe | Asp |
| | | | | 885 | | | | | 890 | | | | | 895 | |
| Leu | Leu | Leu | Ser | Asp | Val | Asn | Met | Pro | Asn | Met | Thr | Gly | Tyr | Glu | Leu |
| | | | 900 | | | | | 905 | | | | | 910 | | |
| Thr | Gln | Ala | Leu | Arg | Glu | Arg | Gly | Glu | Thr | Leu | Pro | Ile | Ile | Gly | Val |
| | | 915 | | | | | 920 | | | | | 925 | | | |
| Thr | Ala | Asn | Ala | Leu | Arg | Glu | Glu | Gly | Glu | Arg | Cys | Arg | Ala | Val | Gly |
| | 930 | | | | | 935 | | | | | 940 | | | | |
| Met | Asn | Ser | Trp | Leu | Val | Lys | Pro | Ile | Thr | Leu | His | Thr | Leu | His | Glu |
| 945 | | | | | 950 | | | | | 955 | | | | | 960 |

Leu Leu Ser Glu Phe Ala Arg Ala Gly Val Val Leu Pro Ala Gln Ala
 965 970 975
 Arg Asp Leu Gly Pro Pro Ala Gln Leu Asp Asp Gly Leu Ser Pro Gln
 980 985 990
 Val Pro Glu Arg Met Arg Ala Leu Phe Leu Glu Thr Met Gly Lys Asp
 995 1000 1005
 Leu Glu Ala Ala Arg Gln Ala Ile Arg Arg Asn Asp Pro Lys Gly Leu
 1010 1015 1020
 Gln Gln Asp Leu His Arg Met Ala Gly Ser Leu Ala Val Met Arg Ala
 1025 1030 1035 1040
 Arg Thr Leu Val Val Met Cys Gln Gly Ala Glu Glu Gly Leu Leu Glu
 1045 1050 1055
 Ser Arg Leu Glu Cys Ser Ala Val Glu Ile Gly Glu Val Leu Val His
 1060 1065 1070
 Ile Glu Gln Ala Leu Glu Phe Val Arg Lys Thr Gly
 1075 1080

<210> 142
 <211> 231
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 142
 Met Arg Pro Gly Ser Ile Val Gly Ile Arg Thr Gln Glu Lys Pro Met
 1 5 10 15
 Ser Lys Leu Lys Ile Val Leu Ala Asp Asp His Pro Ile Val Arg Met
 20 25 30
 Gly Val Cys Asp Met Leu Glu Arg Asp Gly Arg Phe Glu Val Val Gly
 35 40 45
 Glu Ala Ser Thr Pro Ser Glu Leu Val Glu Val Cys Arg Gln Ser Glu
 50 55 60
 Pro His Ile Ala Ile Thr Asp Tyr Ser Met Pro Gly Asp Glu Arg Tyr
 65 70 75 80
 Gly Asp Gly Leu Lys Leu Ile Asp Tyr Leu Leu Arg Asn Phe Pro Arg
 85 90 95
 Thr Lys Val Leu Ile Phe Thr Met Val Gly Asn Arg Leu Ile Leu Asp
 100 105 110
 Ser Leu Tyr Asp His Gly Val Ser Gly Val Val Leu Lys Ser Gly Glu
 115 120 125
 Leu Asp Glu Leu Leu Leu Ala Leu Asp Val Val Lys Gln Asn Arg Val
 130 135 140
 Tyr Arg Gly Ala Asn Met Leu Asp Pro Thr Ser Val Leu Ala Asn Arg
 145 150 155 160
 Asp Glu Val Glu Ser Arg Phe Ala Arg Leu Ser Met Lys Glu Phe Glu
 165 170 175
 Val Leu Arg His Phe Val Ser Gly Ser Asn Val Cys Asp Ile Ala Arg
 180 185 190
 Leu Leu Lys Arg Ser Val Lys Thr Val Ser Thr Gln Lys Val Ser Ala
 195 200 205
 Met Arg Lys Leu Glu Val Asn Ser Asp Gln Ala Leu Met Thr Phe Cys
 210 215 220
 Val His Ala Asn Leu Phe His
 225 230

<210> 143
 <211> 238
 <212> PRT

<213> Pseudomonas aeruginosa

<400> 143

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Val Ser Ser Lys Ile Leu Leu Gln Gly Ala Leu Leu Gly Leu Ala Met
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 20          25          30
Ala Ile Ile Ala Glu Gly His Arg Glu Thr Ser Leu Leu Leu Val Asn
 35          40          45
Gln Asn Ala Tyr Pro Val Ile Val Gln Thr Trp Ile Asp Asp Gly Ala
 50          55          60
Pro Asn Ser Thr Pro Gln Ser Ala Arg Ala Pro Ile Met Pro Leu Pro
 65          70          75          80
Pro Val Phe Arg Leu Glu Pro Gly Gln Gln Arg Ser Leu Arg Leu Leu
 85          90          95
Arg Thr Gly Gln Ala Leu Pro Gly Asp Arg Glu Ser Leu Tyr Trp Leu
 100         105         110
Asn Leu Tyr Glu Ile Pro Pro Gln Ala Thr Gly Leu Leu Ala Glu Gly
 115         120         125
Gln Ser Arg Leu Thr Val Thr Leu Arg Thr Gln Met Lys Val Ile Tyr
 130         135         140
Arg Pro Arg Pro Leu Ala Arg Gly Ala Glu Glu Ala Pro His Gln Leu
 145         150         155         160
Arg Phe Glu Arg Arg Gly Glu Thr Leu Gln Met Glu Asn Pro Thr Pro
 165         170         175
Tyr Phe Ile Ser Leu Ala Gly Ala Glu Leu Gly Gly His Thr Arg Leu
 180         185         190
Ala Ala Ala Glu Leu Leu Pro Pro Phe Ser Arg Arg Val Leu Ala Leu
 195         200         205
Arg Gln Ala Leu Pro Gly Gly Gln Ala Glu Val Arg Phe Ser Trp Ile
 210         215         220
Asp Asp Gly Gly Asn Leu Gln Gln Gly Arg Ser Leu Leu His
 225         230         235
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<210> 144

<211> 448

<212> PRT

<213> Pseudomonas aeruginosa

<400> 144

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Met Lys Thr Ser Leu Arg Val Leu Pro Leu Leu Leu Ala Leu Leu Ala
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Ser Ser Ser Trp Ala Thr Cys Tyr Lys Val Thr Ala Val Gly Asn Ala
 20          25          30
Thr Thr Thr Ser Asn Thr Gln Ile Arg Pro Gly Glu Gly Ser Ala Gly
 35          40          45
Thr Trp Ala Gly Ala Cys Asp Thr Cys Asn Gly Ser Leu Gly Leu Pro
 50          55          60
Ser Val Ile Asn Val Ser Asp Ala Ser Phe Gln Pro Asp Gly Ser Leu
 65          70          75          80
Ile Ala Ser Ser Val Ala Pro Leu Ser Gln Tyr Gly Asp Ser Ala Gly
 85          90          95
Tyr Asp Pro Glu Arg Val Phe Phe Arg Cys Ala Pro Glu Asp Asp Val
 100         105         110
Tyr Glu Met Phe Ser Thr Asn Ala Asp Asp Leu Tyr Ser Gly Trp Tyr
 115         120         125
Leu Gly Gly Asp Ser Ala Gly Asn Ser Ile Gly Leu Gln Ser Ala Tyr
 130         135         140
```

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Thr | Ala | Trp | Pro | Asn | Val | Leu | Leu | Arg | Leu | Thr | His | Val | Glu | Thr |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gly | Gln | Tyr | Phe | Thr | Asp | Val | Trp | Arg | Glu | Arg | Leu | Leu | Gly | Gly | Leu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Asp | Ile | Asp | Ser | Arg | Gly | Phe | Gln | Leu | Val | Lys | Ala | Lys | Asn | Leu | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ala | Val | Arg | Ala | Glu | Leu | Phe | Arg | Ala | Pro | Leu | Glu | Phe | Ile | Arg | Tyr |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Tyr | Ser | Pro | Thr | Thr | Ala | Ser | Arg | Leu | Tyr | Ala | Tyr | Thr | Gln | Pro | Ala |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Gly | Tyr | Ile | Ala | Ile | Lys | Gly | Pro | Gly | Leu | Ala | Tyr | Pro | Asn | Val | Gly |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Ser | His | Asn | Ala | Asn | Tyr | Leu | Gly | Trp | His | Tyr | Asn | Trp | Pro | Gly |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Ala | Ile | Gly | Leu | Tyr | Asn | Asp | Val | Thr | Leu | Lys | Arg | Tyr | Pro | Thr | Cys |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Ser | Val | Thr | Asn | Val | Thr | Pro | His | Val | Val | Phe | Pro | Ser | Ile | Ser | Leu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Ser | Glu | Ile | Asn | Ala | Gly | Ala | Asn | Arg | Glu | Met | Pro | Phe | Glu | Val | Ala |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Phe | Lys | Cys | Gln | Thr | Gly | Val | Ile | Asn | Ser | Thr | Ala | Ser | Ser | Gly | Thr |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Ala | Leu | Gly | Ile | Arg | Ala | Ser | Ala | Gly | Ala | Gln | Ala | Ala | Ser | Ala | Ala |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Leu | Gly | Leu | Arg | Asn | Ala | Asn | Gly | Gly | Leu | Ser | Tyr | Leu | Val | Ser | Asp |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Arg | Tyr | Gly | Gln | Pro | Gly | Met | Ala | Gln | Gly | Val | Gly | Ile | Arg | Leu | Leu |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Arg | Asp | Gly | Ser | Ala | Met | Asn | Leu | Leu | Val | Ser | Glu | Asp | Ser | Ala | Met |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Gly | Ser | Asn | Ala | Glu | Thr | Arg | Gly | Trp | Tyr | Pro | Val | Ile | Gly | Asn | Ala |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Ser | Asn | Lys | Thr | Gly | Glu | Ala | Gly | Gly | Ile | Ser | Gln | Tyr | Ser | Glu | Thr |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Phe | Arg | Ala | Arg | Leu | Glu | Lys | Leu | Thr | Val | Gly | Ser | Met | Pro | Ser | Val |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Thr | Pro | Gly | Arg | Val | Glu | Ala | Ser | Ala | Gln | Val | Val | Ile | Arg | Val | Gln |
| | | 435 | | | | | 440 | | | | | 445 | | | |

<210> 145

<211> 870

<212> PRT

<213> Pseudomonas aeruginosa

<400> 145

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Cys | His | Val | Glu | Ala | Arg | Arg | Thr | Gly | Lys | Leu | Pro | Leu | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Gly | Gly | Leu | Ala | Leu | Ala | Phe | Ala | Gly | Leu | Ala | Asn | Gly | Glu | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Tyr | Arg | Phe | Asp | Asp | Ser | Leu | Met | Gly | Ser | Gly | Leu | Ala | Gly | |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Gly | Thr | Leu | Glu | Arg | Phe | Asn | Arg | Ala | Asn | Gln | Val | Asp | Pro | Gly | Thr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Tyr | His | Val | Asp | Val | Tyr | Leu | Asn | Gly | Ser | Tyr | Ala | Ser | Arg | Thr | Arg |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ile | Glu | Phe | Arg | Pro | Arg | Ala | Gly | Gly | Val | Lys | Pro | Cys | Phe | Gly | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Arg | Phe | Leu | Arg | Arg | Thr | Leu | Gly | Val | Arg | Pro | Ala | Ser | Glu | Ala | Gly |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Gln | Ala | Pro | Gly | Asp | Cys | Leu | Gly | Leu | Glu | Glu | Arg | Leu | Pro | Gly |
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| Ser | Thr | Phe | Asn | Leu | Asp | Thr | Ala | Leu | Leu | Arg | Leu | Asp | Leu | Ser | Val |
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| Pro | Gln | Ala | Leu | Leu | Asp | Ile | Lys | Pro | Arg | Gly | Tyr | Val | Gly | Pro | Asp |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Glu | Trp | Asp | Ala | Gly | Ser | Ser | Met | Gly | Phe | Val | Asn | Tyr | Asp | Ala | Ser |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Phe | Tyr | Arg | Ser | Ser | Phe | Asp | Gly | Val | Gly | Gly | Asn | Gly | Asp | Ser | Asp |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Tyr | Gly | Tyr | Leu | Gly | Leu | Ser | Gly | Gly | Ile | Asn | Phe | Gly | Leu | Trp | Arg |
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| Leu | Arg | His | Gln | Ser | Asn | Tyr | Ser | Tyr | Ser | Ser | Tyr | Ala | Gly | Asn | Thr |
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| Arg | Ser | Asp | Trp | Asn | Ser | Ile | Arg | Thr | Tyr | Ala | Gln | Arg | Ala | Val | Pro |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Gly | Leu | Arg | Ser | Glu | Leu | Thr | Leu | Gly | Glu | Ser | Phe | Thr | Glu | Gly | Asn |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Leu | Phe | Gly | Ser | Leu | Gly | Tyr | Arg | Gly | Val | Arg | Leu | Ala | Ser | Asp | Asp |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Arg | Met | Leu | Ala | Asp | Ser | Gln | Arg | Arg | Tyr | Ala | Pro | Gln | Val | Arg | Gly |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Thr | Ala | Asn | Ser | Asn | Ala | Arg | Val | Val | Ile | Ser | Gln | Asn | Gly | Lys | Lys |
| 290 | | | | | | 295 | | | | | 300 | | | | |
| Val | His | Glu | Ser | Ala | Val | Ala | Pro | Gly | Pro | Phe | Val | Ile | Asn | Asp | Leu |
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| Tyr | Gly | Thr | Ala | Tyr | Asp | Gly | Asp | Leu | Asp | Val | Gln | Val | Ile | Glu | Ala |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Asp | Gly | Ser | Val | Ser | Arg | Phe | Ser | Val | Pro | Phe | Ser | Ala | Val | Pro | Glu |
| | | 340 | | | | | | 345 | | | | | 350 | | |
| Ser | Met | Arg | Pro | Gly | Ile | Ser | Arg | Tyr | Ser | Ala | Thr | Leu | Gly | Gln | Ala |
| | 355 | | | | | | 360 | | | | | 365 | | | |
| Arg | Gln | Tyr | Gly | Asp | Gly | Asn | Asp | Leu | Phe | Gly | Asp | Phe | Thr | Tyr | Gln |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Arg | Gly | Leu | Thr | Asn | Ser | Leu | Thr | Ala | Asn | Leu | Gly | Ser | Arg | Leu | Ala |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Glu | Asp | Tyr | Leu | Ala | Leu | Leu | Gly | Gly | Gly | Val | Leu | Ala | Thr | Pro | Tyr |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Gly | Ala | Phe | Gly | Phe | Asn | Ser | Ile | Phe | Ser | His | Ala | Thr | Val | Glu | Asn |
| | | 420 | | | | | | 425 | | | | | 430 | | |
| Gly | Gln | Arg | Lys | Gln | Gly | Trp | Arg | Val | Gly | Leu | Asn | Tyr | Ser | Arg | Thr |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Phe | Gln | Pro | Thr | Gln | Thr | Thr | Leu | Thr | Leu | Ala | Gly | Tyr | Arg | Tyr | Ser |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Thr | Glu | Gly | Tyr | Arg | Asp | Leu | Gly | Asp | Ala | Leu | Ser | Ala | Arg | His | Ala |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Asp | Glu | His | Asn | Asp | Ser | Trp | Asn | Ser | Ser | Ser | Tyr | Lys | Gln | Arg | Asn |
| | | | 485 | | | | | | 490 | | | | | 495 | |
| Gln | Phe | Thr | Leu | Val | Asn | Gln | Gly | Leu | Gly | Gly | Tyr | Gly | Asn | Leu | |
| | | 500 | | | | | 505 | | | | | 510 | | | |
| Tyr | Leu | Ser | Gly | Ala | Thr | Ser | Asp | Tyr | Tyr | Asp | Gly | Lys | Ser | Arg | Asp |
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| Thr | Gln | Leu | Gln | Phe | Gly | Tyr | Ser | Asn | Thr | Trp | Arg | Gln | Leu | Ser | Tyr |
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| Asn | Leu | Ala | Tyr | Ser | Arg | Gln | Gln | Thr | Thr | Trp | Tyr | Arg | Asp | Leu | Asn |
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| Asp | Asp | Tyr | Asp | Pro | Ser | Leu | Pro | Pro | Gln | Tyr | Asn | Leu | Arg | His | Gly |
| | | | | 565 | | | | | 570 | | | | | 575 | |

Ser Glu Arg Ser Asn Thr Leu Thr Leu Thr Leu Ser Met Pro Leu Gly
 580 585 590
 Ser Ser Ser Gln Ala Pro Asn Leu Ser Ala Met Ala Ser Arg Arg Ser
 595 600 605
 Gly Asp Ser Arg Gly Ser Ser Tyr Gln Thr Gly Leu Asn Gly Thr Leu
 610 615 620
 Asp Glu Asp Arg Ser Leu Ser Tyr Ala Ile Ala Gly Arg Asp Ser
 625 630 635 640
 Asp Asn His Gly Ser Asp Phe Asn Gly Ser Leu Gln Lys Gln Thr Ser
 645 650 655
 Val Ala Thr Leu Asn Ala Gly Tyr Ala Glu Asn Ser Ser Tyr Arg Gln
 660 665 670
 Leu Asn Thr Gly Leu Arg Gly Ala Ala Val Leu His Arg Gly Gly Leu
 675 680 685
 Thr Leu Gly Pro Tyr Val Gly Asp Thr Phe Ala Leu Val Glu Ala Lys
 690 695 700
 Gly Ala Ser Gly Ala Gly Val Arg Gly Gly Gln Gly Ala Arg Val Asn
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 Gly Asn Gly Tyr Ala Val Val Pro Ser Leu Ser Pro Tyr Arg Tyr Asn
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 Pro Val Ser Leu Asp Pro Gln Gly Met Gly Glu Glu Ala Glu Leu Leu
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 Glu Thr Glu Arg Lys Ile Ala Pro Tyr Ala Gly Ala Ala Val His Val
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 Lys Phe Arg Thr Leu Thr Gly His Pro Leu Leu Ile Gln Ala Gln Leu
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 Ala Asp Gly Ser Ala Leu Pro Leu Gly Ala Asn Val Leu Asp Ser Gln
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 Gly Val Asn Ile Gly Met Val Gly Gln Gly Gly Gln Val Tyr Ala Arg
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 Ala Glu Gly Asp Lys Gly Arg Leu Arg Val Gln Trp Ser Glu Arg Pro
 820 825 830
 Gly Asp Ala Cys Leu Leu Asp Tyr Asp Leu Asp Thr Gly Pro Arg Gln
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<211> 248

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 146

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 Gly Thr Arg Val Ile Tyr Pro Gly Asp Ala Arg Glu Lys Thr Val Gln
 35 40 45
 Met Ile Asn Gln Asp Ala Phe Pro Asn Val Ile Gln Ala Trp Ile Asp
 50 55 60
 Asn Asp Asp Pro Ser Ser Thr Pro Glu Thr Ala Asn Ala Pro Phe Leu
 65 70 75 80
 Val Ser Pro Ala Val Thr Arg Ile Ala Pro Gly Ser Gly Gln Thr Leu
 85 90 95
 Arg Leu Leu Tyr Thr Gly Leu Pro Leu Pro Glu Asp Arg Glu Ser Leu

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | 100 | | | | | 105 | | | | 110 | | | |
| Phe | His | Leu | Asn | Val | Leu | Gln | Ile | Pro | Pro | Arg | Asp | Leu | Ala | Lys | Ala |
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| Tyr | Arg | Pro | Ala | Ala | Leu | Leu | Gly | Gly | Ser | Glu | Gln | Leu | Val | Glu | Gln |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Leu | His | Phe | Ser | Leu | Val | Gln | Ala | Ser | Gly | Asn | Trp | Arg | Val | Arg | Val |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Asp | Asn | Pro | Ser | Gly | Tyr | Tyr | Ala | Ser | Phe | Ala | Gly | Ala | Met | Leu | Ser |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Ile | Gly | Glu | Arg | Arg | Trp | Arg | Leu | Leu | Ser | Ser | Met | Val | Pro | Pro | Lys |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Gly | Gln | Ala | Glu | Trp | Ala | Ala | Glu | Arg | Pro | Ser | Pro | Leu | Ala | Pro | Gly |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Pro | Val | Gln | Leu | Asn | Ala | Leu | Leu | Ile | Asn | Asp | Tyr | Gly | Ala | Arg | Met |
| 225 | | | | 230 | | | | | | 235 | | | | | 240 |
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 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 147

| | | | | | | | | | | | | | | | |
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Gly | Ile | Ala | Ala | Ala | Ala | Asn | Thr | Ile | Thr | Phe | His | Gly | Glu | Val |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Thr | Asp | Gln | Thr | Cys | Ser | Ala | Val | Val | Asp | Gly | Arg | Thr | Asp | Pro | Thr |
| | 35 | | | | | | 40 | | | | | 45 | | | |
| Val | Ile | Leu | Asp | Thr | Val | Pro | Val | Ser | Ala | Leu | Asp | Gly | Ala | Val | Gly |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Lys | Pro | Ala | Gly | Glu | Thr | Ser | Phe | Thr | Leu | Gln | Leu | Thr | Gly | Cys | Ala |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ala | Pro | Ala | Ala | Asp | Ala | Glu | Glu | His | Phe | Ser | Val | Met | Phe | Gln | Ala |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Val | Asn | Pro | Thr | Ser | Ala | Gly | Asn | Leu | Thr | Asn | Thr | Ala | Ser | Ala | Gly |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Ala | Thr | Gly | Val | Ala | Leu | Gln | Leu | Leu | Thr | Ala | Pro | Gly | Gly | Ser | Glu |
| | 115 | | | | | 120 | | | | | | 125 | | | |
| Val | Asn | Leu | Ala | Gly | Gly | Ser | Ala | Val | Ala | Ala | Gly | Asp | Ile | Val | Leu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ala | Gly | Gly | Glu | Thr | Ser | Thr | Ser | Tyr | Asp | Tyr | Ala | Val | Arg | Tyr | Ile |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Ser | Glu | Ala | Thr | Thr | Val | Thr | Pro | Gly | Pro | Val | Leu | Gly | Ser | Val | Thr |
| | | | 165 | | | | | 170 | | | | | | 175 | |
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<210> 148
 <211> 248
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 148

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Leu | Leu | Gly | Thr | Ile | Ile | Ser | Thr | Pro | Phe | Gln | Phe | Leu | Gly | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Met | Phe | Gly | Ser | Leu | Ile | Gly | Ala | Ile | Ile | Val | Glu | Trp | Val | Cys | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Tyr | Phe | Phe | Trp | Pro | Asp | Ala | Gly | Trp | Lys | His | Ala | Gln | Ala | Met | Phe |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Tyr | Glu | Leu | Ser | Trp | Leu | Ser | Gln | Gly | Leu | Leu | His | Ser | Val | Val |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Val | Gln | Glu | Pro | Gly | Arg | Thr | Ala | Thr | Trp | Leu | Ala | Gln | Leu | Ala | Tyr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asp | Trp | Leu | Phe | Val | Lys | Thr | Gly | Met | Val | Asp | Trp | Met | Thr | Asn | Met |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Thr | Thr | Ile | Ala | Gln | Ala | Gly | Pro | Arg | Ser | Pro | Leu | Asp | Val | Arg | Tyr |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Thr | Ala | Gln | Gly | Val | Ser | Thr | Leu | Gln | Asn | Tyr | Gly | Leu | Ala | Ala |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Leu | Tyr | Thr | Val | Leu | Thr | Phe | Val | Val | Arg | Leu | Val | Ile | Leu | Val | Met |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Thr | Ile | Pro | Leu | Phe | Val | Met | Ala | Ala | Phe | Thr | Gly | Leu | Val | Asp | Gly |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Leu | Val | Arg | Arg | Asp | Leu | Arg | Lys | Phe | Gly | Ala | Gly | Arg | Glu | Ser | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Tyr | Leu | Tyr | His | Lys | Ala | Arg | Gly | Ser | Ile | Ile | Pro | Leu | Ala | Val | Val |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Pro | Trp | Thr | Leu | Tyr | Leu | Ala | Ile | Pro | Ile | Asn | Ile | Asn | Pro | Leu | Leu |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Ile | Leu | Leu | Pro | Cys | Ala | Ala | Leu | Leu | Gly | Val | Ala | Val | Cys | Ile | Thr |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
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<210> 149
 <211> 744
 <212> PRT
 <213> Pseudomonas aeruginosa

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Tyr | Thr | Thr | Val | Cys | Phe | Thr | Ala | Ala | Ala | Leu | Cys | Ile | Val | |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Ala | Pro | Trp | Thr | Phe | Ser | Leu | Thr | Pro | Leu | Phe | Gly | Ile | Val | Ala | Ala |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Leu | Cys | Phe | Ala | Trp | Leu | Gly | Ile | Val | Arg | Leu | Lys | Gln | Ala | Gly | Val |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Val | Leu | Arg | Tyr | Arg | Arg | Asn | Ile | Arg | Arg | Leu | Pro | Lys | Tyr | Thr | Met |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Thr | Ser | Ala | Glu | Met | Pro | Val | Ser | Asn | Glu | His | Leu | Phe | Ile | Gly | Lys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Gly | Phe | Arg | Trp | Thr | Gln | Lys | His | Thr | Gln | Arg | Leu | Ala | Asp | Thr | Tyr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Pro | Gln | Phe | Ala | Ser | Tyr | Val | Glu | Pro | Ser | Pro | Leu | Tyr | Glu | Arg |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Arg | Arg | Leu | Glu | Lys | Gln | Leu | Glu | Phe | Ala | Pro | Phe | Pro | Leu | Lys |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Leu | Val | Ala | Lys | Ala | Thr | Ala | Trp | Asp | Val | Ala | Trp | Asn | Pro | Ala | Arg |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 | | | | | 150 | | | | | 155 | | | | 160 |
| Pro | Leu | Pro | Pro | Val | Gly | Gly | Leu | Pro | Arg | Leu | His | Gly | Ile | Glu |
| | | | | 165 | | | | | 170 | | | | | 175 |
| Arg | Glu | Gln | Asp | Val | Gly | Leu | Gln | Leu | Gly | Glu | Arg | Val | Gly | His |
| | | | 180 | | | | | 185 | | | | | 190 | |
| Leu | Val | Leu | Gly | Thr | Thr | Arg | Val | Gly | Lys | Thr | Arg | Leu | Ala | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | Leu |
| Phe | Ile | Thr | Gln | Asp | Ile | Arg | Arg | Thr | His | Cys | Arg | Val | Arg | Arg |
| | 210 | | | | | 215 | | | | | 220 | | | |
| Arg | Val | Lys | Met | Gly | Arg | Arg | Thr | Gln | Thr | Val | His | His | Gly | Tyr |
| 225 | | | | | 230 | | | | | 235 | | | | 240 |
| Arg | Arg | Arg | Ala | Glu | Glu | Gln | Pro | Asp | Tyr | Glu | Val | Val | Ile | Val |
| | | | 245 | | | | | | 250 | | | | | 255 |
| Asp | Pro | Lys | Gly | Asp | Ala | Asp | Leu | Leu | Lys | Arg | Met | Tyr | Val | Glu |
| | | | 260 | | | | | 265 | | | | | 270 | Cys |
| Glu | Arg | Ala | Gly | Arg | Leu | Asp | Glu | Phe | Tyr | Val | Phe | His | Leu | Gly |
| | | 275 | | | | | 280 | | | | | 285 | | His |
| Pro | Asp | Leu | Ser | Ala | Arg | Tyr | Asn | Ala | Val | Gly | Arg | Phe | Gly | Arg |
| | 290 | | | | | 295 | | | | | 300 | | | Ile |
| Ser | Glu | Val | Ala | Thr | Arg | Val | Ala | Gly | Gln | Leu | Ser | Gly | Glu | Gly |
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| Ser | Ala | Ala | Phe | Arg | Glu | Phe | Ala | Trp | Arg | Phe | Val | Asn | Ile | Ile |
| | | | 325 | | | | | | 330 | | | | | 335 |
| Arg | Ala | Leu | His | Ala | Leu | Gly | Ile | Arg | Pro | Asp | Tyr | Gln | Gln | Ile |
| | | | 340 | | | | | 345 | | | | | 350 | Leu |
| Arg | His | Val | Val | Asn | Ile | Asp | Ala | Leu | Phe | Val | Glu | Tyr | Ala | Gln |
| | | 355 | | | | 360 | | | | | | 365 | | Lys |
| Tyr | Ile | Ser | Glu | His | Asp | Pro | Arg | Ala | Trp | Asp | Thr | Ile | Ile | Gln |
| | 370 | | | | 375 | | | | | | 380 | | | Ile |
| Glu | Gly | Lys | Leu | Asn | Asp | Lys | Asn | Ile | Pro | Phe | Asn | Met | Lys | Gly |
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| Pro | Leu | Arg | Val | Val | Ala | Ile | Asp | Gln | Tyr | Leu | Thr | Gln | Lys | Arg |
| | | | 405 | | | | | | 410 | | | | | Ile |
| Ala | Asp | Pro | Val | Met | Glu | Gly | Leu | Lys | Ser | Ala | Val | Arg | Tyr | Asp |
| | | | 420 | | | | | 425 | | | | 430 | | Lys |
| Thr | Tyr | Phe | Asp | Lys | Ile | Val | Ala | Ser | Leu | Leu | Pro | Leu | Leu | Glu |
| | | 435 | | | | 440 | | | | | | 445 | | Lys |
| Leu | Thr | Thr | Gly | Arg | Ile | Ser | Glu | Leu | Leu | Ser | Pro | Asn | Tyr | Ala |
| | 450 | | | | | 455 | | | | | 460 | | | Asp |
| Leu | Asn | Asp | Pro | Arg | Pro | Ile | Phe | Asp | Trp | Met | Gln | Val | Ile | Arg |
| 465 | | | | | 470 | | | | 475 | | | | | Lys |
| Arg | Ala | Val | Val | Tyr | Val | Gly | Leu | Asp | Ala | Leu | Ser | Asp | Thr | Glu |
| | | | 485 | | | | | | 490 | | | | | Val |
| Ala | Ala | Ala | Val | Gly | Asn | Ser | Met | Phe | Ser | Asp | Leu | Val | Ser | Val |
| | | | 500 | | | | | 505 | | | | 510 | | Ala |
| Gly | His | Ile | Tyr | Lys | His | Gly | Val | Asp | Asp | Gly | Leu | Pro | Gly | Ser |
| | 515 | | | | | | 520 | | | | | 525 | | Leu |
| Ala | Ser | Gly | Lys | Val | Arg | Ile | Asn | Leu | His | Ala | Asp | Glu | Phe | Asn |
| | 530 | | | | | 535 | | | | | 540 | | | Glu |
| Leu | Ile | Gly | Asp | Glu | Phe | Ile | Pro | Met | Val | Asn | Lys | Ala | Gly | Gly |
| 545 | | | | | 550 | | | | | 555 | | | | Ala |
| Gly | Val | Gln | Val | Thr | Ala | Tyr | Thr | Gln | Thr | Met | Ser | Asp | Ile | Glu |
| | | | 565 | | | | | | 570 | | | | | Ala |
| Lys | Ile | Gly | Ser | Arg | Ala | Lys | Ala | Gly | Gln | Ile | Ile | Gly | Asn | Phe |
| | | | 580 | | | | | 585 | | | | | 590 | Asn |
| Asn | Leu | Phe | Met | Leu | Arg | Val | Arg | Glu | Thr | Ala | Thr | Ala | Glu | Leu |
| | | 595 | | | | | 600 | | | | | 605 | | Leu |
| Thr | Asn | Gln | Leu | Pro | Lys | Val | Gln | Ile | Tyr | Thr | Ser | Thr | Pro | Ala |
| | 610 | | | | | 615 | | | | | 620 | | | Ser |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ala | Asn | Asp | Ala | Ile | Asn | Asn | Asn | Lys | Lys | Val | Ala | Phe | Thr | Ser |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 |
| Ser | Ser | His | Asp | Gln | Val | Gln | Met | Thr | Ser | Val | Pro | Met | Leu | Glu | Pro |
| | | | | 645 | | | | | 650 | | | | | 655 | |
| Ala | His | Ile | Ile | Gly | Leu | Pro | Lys | Gly | Gln | Ala | Phe | Ala | Leu | Leu | Glu |
| | | | 660 | | | | | 665 | | | | | 670 | | |
| Gly | Gly | Asn | Leu | Trp | Lys | Ile | Arg | Met | Pro | Leu | Pro | Ala | Val | Ala | Pro |
| | | 675 | | | | | 680 | | | | | 685 | | | |
| Asp | Glu | Val | Met | Pro | Lys | Ser | Leu | Gln | Glu | Leu | Ala | Ala | Gly | Met | Arg |
| | 690 | | | | | 695 | | | | | 700 | | | | |
| Lys | Gly | Gln | Ala | Ala | Asn | Ser | Glu | Trp | Trp | Glu | Ala | Pro | Gly | Tyr | Ser |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 |
| Ala | Leu | Gln | Asp | Gly | Leu | Pro | Gln | Asp | Leu | Val | Asp | Asp | Phe | Arg | His |
| | | | 725 | | | | | | 730 | | | | | 735 | |
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 <211> 85
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 150

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Thr | His | Leu | Ile | Thr | Leu | Val | Ile | Lys | Gln | Pro | Ser | Asp | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Ala | Arg | Gln | Leu | Met | Tyr | Gln | Glu | Leu | Leu | Gly | Leu | Ile | Ser | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Tyr | Gly | Gly | Glu | Val | Thr | Ser | Lys | Ala | Leu | Glu | Asp | Glu | Ser | Thr | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Cys | Glu | Leu | Leu | Val | Gln | Met | Leu | Pro | Asp | His | Glu | Val | Glu | Gln | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Lys | Gln | Val | Leu | Glu | Leu | His | Ala | Lys | Gly | Arg | Leu | Gln | Ala | Pro |
| 65 | | | | 70 | | | | | | 75 | | | | | 80 |
| Ala | Ser | Leu | Lys | Val | | | | | | | | | | | |
| | | | | 85 | | | | | | | | | | | |

<210> 151
 <211> 166
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 151

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| Met | Lys | Lys | Phe | Leu | Ala | Thr | Leu | Ala | Phe | Cys | Thr | Ala | Phe | Ala | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Ala | Trp | Ala | Ala | Gly | Leu | Ile | Val | Val | Glu | Asp | Leu | Gly | Gly | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ala | Leu | Pro | Tyr | Tyr | Gln | Gly | Leu | Asp | Pro | Gln | Pro | Ser | Ala | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Pro | Gly | Pro | Gly | Asp | Leu | Gly | Val | Arg | Gly | Ser | Gly | Ala | Phe | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Val | Arg | Ser | Ala | Arg | Leu | Ser | Pro | Gly | Arg | Val | Gln | Gly | Arg | Ala | Ile |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asn | Ala | Pro | Gly | Leu | Gln | Leu | Leu | Phe | Leu | Val | Gly | Asp | Asp | Thr | Leu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ser | Arg | Thr | Trp | Leu | Lys | Glu | Arg | Gly | Asp | Glu | Leu | Arg | Asp | Leu | Gln |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Val | Gly | Leu | Ala | Val | Asn | Val | Ala | Ser | Glu | Ala | Arg | Leu | Thr | Glu |

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | 115 | | | | | 120 | | | | 125 | | | | | | |
| Ile | Arg | Ala | Trp | Gly | Lys | Gly | Leu | Gln | Ile | Leu | Pro | Ala | Pro | Ala | Asp | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Asp | Leu | Val | Asp | Arg | Leu | Gly | Leu | Gln | His | Tyr | Pro | Ala | Leu | Ile | Thr | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
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<210> 152
 <211> 193
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 152

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| Met | Ala | Thr | Ser | Val | Val | Arg | Ala | Leu | Gln | Leu | Ala | Thr | Leu | Leu | Val | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Leu | Val | Asn | Ile | Ala | Gln | Ala | Ala | Val | Asp | Pro | Pro | Pro | Ala | Tyr | Lys | | |
| | | 20 | | | | | | 25 | | | | | 30 | | | | |
| Gln | Ile | Ala | Leu | Pro | Lys | Gly | Val | Pro | Ala | Glu | Val | Leu | Tyr | Ser | Val | | |
| | 35 | | | | | 40 | | | | | | 45 | | | | | |
| Ala | Leu | Thr | Glu | Ser | Lys | Val | Leu | Leu | Arg | Gly | Glu | Tyr | Val | Pro | Trp | | |
| 50 | | | | | 55 | | | | | 60 | | | | | | | |
| Pro | Trp | Thr | Leu | Asn | Val | Ala | Gly | Lys | Ser | Tyr | Tyr | Tyr | Ala | Thr | Arg | | |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 | | |
| Thr | Ala | Ala | Cys | Thr | Ala | Leu | Leu | Ala | Ala | Ile | Asn | Leu | Tyr | Gly | Ala | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Lys | Ser | Val | Asp | Ser | Gly | Leu | Gly | Gln | Val | Asn | Ile | Gly | Trp | Asn | Gly | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| His | Arg | Phe | Ser | Ser | Pro | Cys | Glu | Ser | Leu | Asp | Pro | Tyr | Lys | Asn | Leu | | |
| | 115 | | | | | 120 | | | | | | 125 | | | | | |
| Asp | Ala | Thr | Ser | Asp | Ile | Leu | Ile | Glu | Gln | Arg | Asp | Ala | Leu | Tyr | Ala | | |
| 130 | | | | | | 135 | | | | | 140 | | | | | | |
| Ser | Ala | Pro | Gly | Arg | Pro | Val | Asp | Trp | Ile | Gln | Val | Ala | Gly | Arg | Tyr | | |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 | | |
| His | Arg | Pro | Ala | Gly | Gly | Ala | Pro | Ala | Ala | Lys | Tyr | Arg | Arg | Thr | Val | | |
| | | | 165 | | | | | 170 | | | | | | 175 | | | |
| Ser | Arg | His | Leu | Ser | Gln | Val | Leu | Gly | Val | Asn | Leu | Leu | Val | Thr | Asn | | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | |

Pro

<210> 153
 <211> 251
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 153

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| Met | Ile | Arg | Thr | Val | Ser | Leu | Leu | Ser | Gly | Leu | Met | Leu | Leu | Leu | Ser | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Tyr | Pro | Ala | Ala | Gly | Gln | Glu | Ala | Ala | Ala | Ser | Arg | Glu | Ala | Ser | Ser | | |
| | | 20 | | | | | | 25 | | | | | 30 | | | | |
| Gln | Leu | Ser | Gly | Ser | Gln | Leu | Gly | Thr | Leu | Lys | Gln | Gln | Thr | Ser | Gln | | |
| | 35 | | | | | 40 | | | | | | 45 | | | | | |
| Ser | Asp | Leu | Ala | Gln | Glu | Trp | Gly | Leu | Asn | Gln | Gln | Glu | Trp | Thr | Arg | | |
| 50 | | | | | 55 | | | | | 60 | | | | | | | |
| Tyr | Gln | Thr | Leu | Met | Gln | Gly | Pro | Arg | Gly | Ala | Tyr | Ser | Pro | Gly | Ile | | |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Pro | Leu | Thr | Ala | Leu | Gly | Ile | Glu | Ala | Arg | Ser | Ala | Glu | Glu | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Arg | Arg | Tyr | Ala | Asp | Leu | Gln | Val | Gln | Ala | Glu | Arg | Arg | Arg | Val | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Glu | Leu | Ala | Tyr | Gln | Arg | Ala | Tyr | Asp | Glu | Ala | Phe | Ala | Arg | Ala |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Tyr | Pro | Gly | Glu | Gly | Val | Ile | Arg | Leu | Thr | Glu | Ser | Ser | Thr | Ala | Asn |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Pro | Ser | Gly | Thr | Pro | Asn | Met | Ser | Pro | Ala | Leu | Gln | Ser | Ser | Gly | Arg |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Leu | Ala | Leu | Phe | Val | Gln | Asp | Asn | Cys | Thr | Ala | Cys | Ile | Gln | Arg | Val |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Arg | Asp | Leu | Gln | His | Ala | Glu | Lys | Glu | Phe | Asp | Leu | Tyr | Phe | Val | Gly |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Ser | Gln | Asn | Asp | Ala | Glu | Arg | Val | Arg | Arg | Trp | Ala | Ile | Leu | Ala | Gly |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Ile | Asp | Pro | Lys | Lys | Val | Arg | Ser | Lys | Gln | Ile | Thr | Leu | Asn | His | Asp |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Glu | Gly | Arg | Trp | Met | Ala | Leu | Gly | Leu | Gly | Gly | Ala | Leu | Pro | Ala | Leu |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Val | Gln | Glu | Val | Asn | Gly | Arg | Trp | Gln | Arg | Leu | | | | | |
| | | | | 245 | | | | | | 250 | | | | | |

<210> 154

<211> 229

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 154

| | | | | | | | | | | | | | | | |
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| Met | Lys | Arg | Pro | Ser | Pro | Ala | Ser | Met | Ile | Leu | Gly | Leu | Cys | Leu | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Met | Ala | Gly | Leu | Leu | Ser | Tyr | Gln | Gln | Tyr | Gln | Leu | Val | Gln | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Ser | Gly | Val | Asp | Ser | Ala | Ala | Glu | Lys | Ala | Ser | Leu | Glu | Ala | Ile |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Leu | Ala | Arg | Leu | Ser | Arg | Val | Asp | Glu | Arg | Leu | Asp | Ala | Val | Asp | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gln | His | Leu | Val | Ser | Asn | Glu | Asp | Phe | Arg | Ser | Gly | Gln | Gln | Ala | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ser | Asn | Arg | Ile | Asp | Ala | Ala | Gln | Ala | Phe | Ala | Lys | Gln | Ala | Ser | Asp |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Ala | Val | Glu | Asn | Leu | Ala | Gln | Thr | Thr | Ala | Ser | Ala | Gly | Asp | Leu | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Val | Leu | Lys | Ala | Thr | Val | Glu | Thr | Leu | Asp | Gly | Ser | Val | Arg | Thr | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Gln | Glu | Lys | Gln | Ala | Lys | Ala | Pro | Pro | Leu | Ile | Val | Pro | Ala | Pro | Lys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Arg | Pro | Ile | Pro | Ala | Lys | Pro | Lys | Pro | Lys | Pro | Lys | Pro | Met | Glu | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Pro | Pro | Phe | Ser | Ile | Leu | Gly | Val | Glu | Tyr | Arg | Gly | Gly | Glu | Arg | Phe |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Leu | Ser | Val | Ala | Pro | Pro | Gly | Ser | Thr | Gln | Leu | Ser | Gln | Ile | Tyr | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ile | Arg | Arg | Gly | Asp | Ala | Val | Ala | Gly | Thr | Thr | Trp | Arg | Leu | Thr | Asp |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Leu | Asp | Asp | Gly | Thr | Ala | His | Phe | Asp | Val | Ala | Gly | Thr | Ser | Arg | Ser |
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| Val | Arg | Ile | Gln | Pro | | | | | | | | | | | |

225

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 <211> 343
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 155
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 35 40 45
 Ser Glu Thr Val Tyr Ala Tyr Ala Ser Tyr Ile Asn Ala Leu Ser Ile
 50 55 60
 Gly Gln Arg Ile Asp Pro Ala Phe Thr Gln Ser Leu Thr Ser Ala Ile
 65 70 75 80
 Ser Asn Leu Ala Gly Arg Pro Ile Ala Val Ser Asp Ile Tyr Gln Lys
 85 90 95
 Ile His Glu Thr Thr Leu Arg Thr Pro Val Glu Met Gly Val Arg Pro
 100 105 110
 Asn Ser Ile Thr Phe Glu Glu Tyr Gln Ala Thr Ile Asn Gln Gln Ala
 115 120 125
 Ile Asn Met Val Gln Asp Met Gln Asp Gly Asp Lys Gly Glu Lys Val
 130 135 140
 Glu Ala Leu Gln Ala Asn Met Gln Phe Leu Tyr Gly Gln Glu Ile Asn
 145 150 155 160
 Thr Asp Phe Ile Ala Arg Asn Glu Leu Ala Ala Gly Gln Arg Ala Lys
 165 170 175
 Thr Val Ala Ile Val Gln Gly His Ile Thr Ile Gly Tyr Gly Phe Asp
 180 185 190
 Thr Phe Val His Glu Ala Ser Glu Leu Asn Ser Leu Asn Leu Val Gly
 195 200 205
 Ser Thr Arg Gln Lys Val Leu Pro Ala Leu Gln Leu Ser Thr Ser Asp
 210 215 220
 Pro Gly Phe Trp Ser Val Tyr Ala Leu Leu Gly Gln Ser Leu Thr Asp
 225 230 235 240
 Asp Asp Gly Leu Leu Leu Phe Ser Ala Lys Ala Arg Ala Val Val Gln
 245 250 255
 Arg Ile Ala Ser Asn Gln Phe Ala Gly Lys Trp Asn Gly Leu Pro Pro
 260 265 270
 Ala Ile Lys Thr Val Ala Leu Asp Leu Tyr Tyr Gln Tyr Gly Gln Thr
 275 280 285
 Gly Asn Phe Pro Lys Phe Gln Gln Ala Ile Asn Ser His Asp Trp Pro
 290 295 300
 Ala Val Ile His Glu Leu Arg Asn Trp Asn Gly Val Pro Asn Asp Pro
 305 310 315 320
 Leu Gln Phe Ile Thr Lys Arg Leu Glu Glu Arg Ala Lys Tyr Leu Ala
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 Ile Ser Phe Asn Tyr Glu Gln
 340

<210> 156
 <211> 221
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 156

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Asn | Thr | Val | Ser | Glu | Thr | Gln | Gln | Ile | Asn | Ile | Tyr | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Gly | Gln | Ser | Ile | Ser | Gly | Leu | Tyr | Lys | Gly | Leu | Ala | Asn | Gln | Cys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Pro | Gly | Gln | Pro | Phe | Pro | Glu | Val | Gln | Leu | Val | Glu | Ala | Trp | Asp |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Pro | Leu | Val | Leu | His | Pro | Glu | Phe | Val | Pro | Asn | Gly | Asp | Val | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Ile | Asp | Lys | Glu | Tyr | Gly | Thr | Ile | Leu | Ala | Ala | Glu | Ser | Ala | Gln |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Val | Ile | Leu | Leu | Gln | Leu | Gln | Met | Ala | Gln | Asp | Lys | Ala | Lys | Ala | Cys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Gly | Glu | Val | Thr | Ala | Leu | Ile | Ser | Ser | Val | Ser | Ser | Asn | Leu | Asn | Thr |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Ile | Lys | Ser | Arg | His | Gly | Ala | Asn | Tyr | Leu | Asn | Leu | Leu | Lys | Gln | Ser |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Pro | Asn | Arg | Tyr | Pro | Thr | Ser | Val | Gly | Val | Glu | Ile | Met | Ser | Gly | Gly |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ser | Pro | Asn | Gln | Asp | Ser | Gly | Ile | Glu | Val | Ser | Tyr | Gly | Ala | Ser | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gly | Arg | Leu | Thr | Gln | Ser | Gln | Leu | Gln | Ala | Met | Asn | Leu | Pro | Ala | Ser |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Leu | Lys | Gln | Leu | Leu | Thr | Gln | Gly | Ile | Gly | Val | Lys | Leu | Ser | Gln | Pro |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Glu | Tyr | Trp | Pro | Ala | Tyr | Asn | Asn | Ile | Ala | Thr | Gly | Ile | Arg | Tyr | Thr |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Thr | Gly | Val | Ala | Ile | Thr | Leu | Ala | Tyr | Trp | Ala | Thr | Val | | | |
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<210> 157

<211> 224

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 157

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| Met | Thr | Gln | Ala | Ala | Lys | Ile | Pro | Ala | Asn | Glu | Tyr | Ser | Leu | Gly | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Arg | Gly | Tyr | Ile | Asn | Ile | Trp | Pro | Glu | Lys | Asp | Glu | Ala | Gln | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Leu | Ile | His | Asn | Asp | Gly | Pro | Asn | Gly | Ala | Thr | Cys | Ser | Leu | Lys |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Gly | Thr | Leu | Arg | Asp | Asn | Lys | Gly | Val | Val | His | Ser | Pro | Tyr | Ser | Ser |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Ala | Ser | Cys | Leu | Leu | Ser | Ile | Thr | Gln | Thr | Gly | Leu | Leu | Ser | Val | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Val | Lys | Arg | Glu | Glu | Asn | Ser | Pro | Ser | Cys | Ser | Ala | Trp | Cys | Gly | Pro |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Arg | Val | Trp | Phe | Glu | Gly | Ala | Tyr | Ser | Val | Pro | Pro | Lys | Gly | Cys | Tyr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Tyr | Met | Gln | Ile | Arg | Lys | Lys | Thr | Arg | Gln | Met | Leu | Gly | Met | Ile | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Lys | Lys | Glu | Leu | Asp | Ala | Ala | Arg | Ala | Leu | Ser | Asn | Lys | Leu | Leu | Ser |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Cys | Ala | Thr | Glu | Leu | Ala | Tyr | Pro | Ala | Lys | Ile | Tyr | Leu | Thr | Asn |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Thr | Leu | Ala | Met | Ile | Ser | Ala | Glu | Lys | Gly | Glu | Asn | Ala | Arg | Cys | Leu |
| | | | | 165 | | | | | 170 | | | | | 175 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Tyr | Ala | His | Arg | Val | Gln | Lys | Gln | Ile | Pro | Val | Arg | Asp | Asp | Gly |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Gln | Pro | Ala | Glu | Asp | Leu | Leu | Pro | Ala | Glu | His | Ala | Phe | Ala | Met | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Gln | Arg | Ala | Lys | Ala | Asp | Ala | Leu | Ser | Glu | Arg | Cys | Ser | Asp | Glu | Lys |
| | 210 | | | | | 215 | | | | | 220 | | | | |

<210> 158
 <211> 81
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 158

| | | | | | | | | | | | | | | | |
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| Val | Leu | Val | Glu | Arg | Leu | Pro | Thr | Asp | Val | Glu | Phe | Ala | Gly | Glu | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Leu | Gly | Leu | Ala | Gly | Arg | Cys | Pro | Gln | Pro | Gln | Gly | Ser | Thr | Cys |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Leu | Ser | Asp | Lys | Ala | Ser | Leu | Arg | Pro | Arg | Tyr | Ala | Gln | Ser | Leu | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ser | Ser | Arg | Tyr | Arg | Ala | Gly | Ala | Ala | Cys | Met | Leu | Leu | Ser | Lys | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ala | Ala | Gly | Leu | Phe | Arg | Val | Ser | Val | Arg | Pro | Ile | His | Leu | Tyr | Leu |
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| Gly | | | | | | | | | | | | | | | |

<210> 159
 <211> 119
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 159

| | | | | | | | | | | | | | | | |
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Glu | Ser | Arg | Lys | Asn | Asp | Arg | Leu | Leu | Lys | Gln | Leu | Leu | Thr | Glu |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Asp | Phe | Val | Glu | Phe | Gly | Ala | Ile | Gly | Lys | Ser | Trp | Thr | Lys | Ala | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Val | Ile | Val | Gly | Leu | Lys | Ser | Gln | Thr | Trp | Ile | Lys | Arg | Thr | Ile | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Asp | Phe | Lys | Leu | Arg | Val | Leu | Ala | Asp | Gly | Val | Ala | Leu | Ala | Thr | Tyr |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Arg | Cys | Arg | His | Gln | Asn | Ala | Asn | Gly | Asp | Glu | Ser | Leu | Ser | Met | Arg |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Ser | Ser | Val | Trp | Lys | Thr | Tyr | Glu | Asp | Gly | Trp | His | Met | Val | Phe | His |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Gln | Gly | Thr | Arg | Val | Ser | Glu | | | | | | | | | |
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<210> 160
 <211> 511
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 160

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Ser | Ser | Pro | Asn | Leu | Asp | Gln | Met | Thr | Pro | Glu | Gln | Leu | Arg |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | | 5 | | 10 | | 15 | | | | | | | | | |
| Ala | Leu | Ala | Ala | Gln | Ala | Leu | Gln | Leu | Gln | Ser | Gln | Val | Glu | Ala | Met |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Ser | Arg | Lys | Ile | Arg | Asn | Asn | Glu | Thr | Leu | Ile | Glu | Gln | Phe | Lys | Phe |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | Ile | Ala | Leu | Leu | Lys | Arg | His | Lys | Phe | Ala | Lys | Arg | Ser | Glu | Gln |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Ile | Ser | Ser | Ala | Gln | Gly | Ser | Leu | Leu | Asp | Asp | Leu | Leu | Asp | Thr | Asp |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Leu | Glu | Ala | Ile | Glu | Ala | Glu | Leu | Lys | Gln | Leu | Leu | Pro | Ala | Ser | Pro |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Gln | Ala | Glu | Pro | Arg | Gln | Ser | Pro | Lys | Arg | Ser | Pro | Leu | Pro | Pro | Gln |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Phe | Pro | Arg | Thr | Val | Ile | Arg | His | Glu | Pro | Glu | Asn | Thr | Gln | Cys | Ala |
| | | 115 | | | | | 120 | | | | 125 | | | | |
| Cys | Gly | Cys | Gln | Leu | Gln | Arg | Ile | Gly | Glu | Asp | Val | Ser | Glu | Lys | Leu |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Asp | Tyr | Thr | Pro | Gly | Val | Phe | Thr | Val | Glu | Gln | His | Val | Arg | Gly | Lys |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Trp | Ala | Cys | Arg | Gln | Cys | Glu | Thr | Leu | Ile | Gln | Ala | Pro | Val | Pro | Ala |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Gln | Val | Ile | Asp | Lys | Gly | Ile | Pro | Thr | Ala | Gly | Leu | Leu | Ala | His | Val |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Met | Val | Ala | Lys | Phe | Ala | Asp | His | Leu | Pro | Leu | Tyr | Arg | Gln | Glu | Lys |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Ile | Phe | Gly | Arg | Ala | Gly | Leu | Pro | Ile | Ala | Arg | Ser | Thr | Leu | Ala | Gln |
| | 210 | | | | 215 | | | | | | 220 | | | | |
| Trp | Val | Gly | Gln | Thr | Gly | Val | Arg | Leu | Gln | Pro | Leu | Val | Asp | Ala | Leu |
| 225 | | | | 230 | | | | | 235 | | | | | 240 | |
| Arg | Glu | Ala | Val | Leu | Asn | Gln | Asp | Val | Ile | His | Ala | Asp | Glu | Thr | Pro |
| | | | 245 | | | | | 250 | | | | | 255 | | |
| Val | Gln | Met | Leu | Ala | Pro | Gly | Glu | Lys | Lys | Thr | His | Arg | Val | Tyr | Val |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Trp | Ala | Tyr | Ser | Thr | Thr | Pro | Phe | Ser | Ala | Leu | Lys | Ala | Val | Val | Tyr |
| | | 275 | | | | 280 | | | | | | 285 | | | |
| Asp | Phe | Ser | Pro | Ser | Arg | Ala | Gly | Glu | His | Ala | Arg | Asn | Phe | Leu | Gly |
| | 290 | | | | 295 | | | | | | 300 | | | | |
| Asp | Trp | Asn | Gly | Lys | Leu | Val | Cys | Asp | Asp | Phe | Ala | Gly | Tyr | Lys | Ala |
| 305 | | | | 310 | | | | | 315 | | | | | 320 | |
| Gly | Phe | Glu | Gln | Gly | Ile | Thr | Glu | Ile | Gly | Cys | Met | Ala | His | Ala | Arg |
| | | | 325 | | | | | 330 | | | | | 335 | | |
| Arg | Lys | Phe | Phe | Asp | Leu | His | Val | Ala | Asn | Lys | Ser | Gln | Leu | Ala | Glu |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Gln | Ala | Leu | His | Ser | Ile | Gly | Gly | Leu | Tyr | Glu | Val | Glu | Arg | Gln | Ala |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Arg | Asp | Met | Ser | Asn | Glu | Asp | Arg | Trp | Arg | Ile | Arg | Gln | Glu | Met | Ala |
| | 370 | | | | 375 | | | | | | 380 | | | | |
| Val | Pro | Ile | Ser | Lys | Thr | Leu | His | Asp | Trp | Met | Leu | Ala | Gln | Arg | Asp |
| 385 | | | | 390 | | | | | 395 | | | | | 400 | |
| Leu | Val | Pro | Asn | Gly | Ser | Ala | Thr | Ala | Lys | Ala | Leu | Asp | Tyr | Ser | Leu |
| | | | 405 | | | | | 410 | | | | | 415 | | |
| Lys | Arg | Trp | Gly | Ala | Leu | Thr | Arg | Tyr | Leu | Asp | Asp | Gly | Ala | Val | Pro |
| | | 420 | | | | | 425 | | | | | 430 | | | |
| Ile | Asp | Asn | Asn | Gln | Val | Glu | Asn | Gln | Ile | Arg | Pro | Trp | Ala | Leu | Gly |
| | 435 | | | | | 440 | | | | | 445 | | | | |
| Arg | Ser | Asn | Trp | Leu | Phe | Ala | Gly | Ser | Leu | Arg | Ser | Gly | Lys | Arg | Ala |
| | 450 | | | | 455 | | | | | | 460 | | | | |
| Ala | Ala | Ile | Met | Ser | Leu | Ile | Gln | Ser | Ala | Arg | Met | Asn | Gly | His | Asp |
| 465 | | | | 470 | | | | | 475 | | | | | 480 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Tyr | Ala | Tyr | Leu | Lys | Asp | Val | Leu | Thr | Arg | Leu | Pro | Thr | Leu | Arg |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Ser | Lys | Asp | Ile | Ser | Gln | Leu | Leu | Pro | His | Gln | Trp | Val | Gln | Ile | |
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<210> 161
 <211> 111
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 161

| | | | | | | | | | | | | | | | |
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| Met | Ile | Arg | Ile | Asp | Ala | Ile | Trp | Leu | Ala | Thr | Glu | Pro | Met | Asp | Met |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Ala | Gly | Thr | Glu | Thr | Ala | Leu | Ala | Arg | Val | Ile | Ala | Val | Phe | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Ala | Lys | Pro | His | Cys | Ala | Tyr | Leu | Phe | Ala | Asn | Arg | Arg | Ala | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Arg | Met | Lys | Val | Leu | Val | His | Asp | Gly | Val | Gly | Ile | Trp | Leu | Ala | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Arg | Leu | Asn | Gln | Gly | Lys | Phe | His | Trp | Pro | Gly | Ile | Arg | His | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Cys | Glu | Val | Glu | Leu | Asp | Ser | Glu | Gln | Leu | Gln | Ala | Leu | Val | Leu | Gly |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Leu | Pro | Trp | Gln | Arg | Val | Gly | Thr | Gly | Gly | Val | Ile | Ser | Met | Leu | |
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<210> 162
 <211> 88
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 162

| | | | | | | | | | | | | | | | |
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| Met | Arg | Gln | Arg | Ser | Ser | Tyr | Pro | Lys | Pro | Phe | Lys | Ala | Gln | Val | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Glu | Cys | Leu | Gln | Pro | Gly | Ala | Thr | Val | Ser | Ser | Val | Ala | Ile | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| His | Gly | Ile | Asn | Ala | Asn | Val | Ile | Arg | Lys | Trp | Leu | Thr | Leu | Tyr | Arg |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Asp | Gln | Pro | Val | Pro | Ala | Ser | Leu | Pro | Ala | Phe | Val | Pro | Leu | Lys | Ala |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Thr | Pro | Lys | Arg | Pro | Ala | Glu | Thr | Ser | Val | Leu | Ile | Glu | Leu | Pro | Met |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ala | Gly | Gln | Met | Ile | Thr | Val | Lys | | | | | | | | |
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<210> 163
 <211> 408
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 163

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Leu | Ser | Leu | Ile | Arg | Ser | Leu | Thr | Ala | Ser | Ala | Ser | Arg | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ile | Ser | Ala | Leu | Lys | Arg | Asp | Ala | Lys | Arg | Leu | Gln | Lys | Asn | Ser | Phe |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Val | Phe | Gly | Thr | Glu | Tyr | Pro | Leu | Lys | Val | Cys | Gln | Asn | Ala | Val |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Ser | Leu | Asn | Arg | Ser | Asn | Pro | Pro | Val | Tyr | Thr | Gly | Ser | Val | Asn | Ala | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| His | Arg | Gln | Leu | Val | Met | Asp | Arg | Leu | Lys | Arg | Lys | Pro | Phe | Ala | Ala | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Gln | Ala | Glu | Val | Val | Gln | Ala | Ile | Thr | Ala | Leu | Leu | Leu | Asp | Arg | Asn | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Glu | Gln | Ala | Gly | Ile | Ile | Asn | Ala | Glu | Met | Gly | Thr | Gly | Lys | Thr | Met | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Met | Ala | Ile | Ala | Val | Ala | Ala | Val | Met | His | Ala | Ala | Gly | Tyr | Arg | Arg | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Thr | Leu | Val | Val | Ser | Pro | Pro | His | Leu | Val | Tyr | Lys | Trp | Arg | Arg | Glu | |
| | 115 | | | | | | 120 | | | | | | 125 | | | |
| Ile | Leu | Glu | Thr | Ile | Pro | Ala | Ala | Arg | Val | Trp | Val | Leu | Asn | Gly | Pro | |
| 130 | | | | | | 135 | | | | | 140 | | | | | |
| Asp | Thr | Leu | Leu | Lys | Leu | Leu | Lys | Leu | Arg | Asp | Gln | Met | Gly | Asp | Ala | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Tyr | Asp | Gly | Arg | Gln | Glu | Phe | Phe | Ile | Leu | Gly | Arg | Val | Arg | Met | Arg | |
| | | | | 165 | | | | | 170 | | | | | 175 | | |
| Met | Gly | Phe | His | Trp | Arg | Leu | Ala | Cys | Trp | Lys | Lys | Arg | Ala | Ala | Gly | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| Gly | Gln | Leu | Leu | Ala | Ala | Cys | Pro | Asp | Cys | Gly | Gln | Val | Leu | Glu | Asp | |
| | 195 | | | | | | 200 | | | | | 205 | | | | |
| Leu | Glu | Gly | Asn | Leu | Val | Thr | Val | Glu | Glu | Phe | Glu | Arg | Gly | Asp | Arg | |
| 210 | | | | | | 215 | | | | | 220 | | | | | |
| Arg | Arg | Thr | Cys | Ser | Ser | Cys | Arg | Gly | Ala | Leu | Trp | Thr | Leu | Ile | Arg | |
| 225 | | | | 230 | | | | | 235 | | | | | | 240 | |
| Pro | Gly | Lys | Pro | Asp | Gly | Gly | Asn | Arg | Arg | Ala | Thr | Ile | Leu | Lys | Ser | |
| | | | | 245 | | | | | 250 | | | | | 255 | | |
| Met | Cys | Arg | Ile | Pro | Thr | Ile | Gly | Pro | Val | Arg | Ala | Glu | Arg | Leu | Leu | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| Asn | Asp | Phe | Gly | Glu | Asp | Phe | Leu | Ala | Thr | Met | Leu | Val | Asp | Asn | Val | |
| | 275 | | | | | | 280 | | | | | 285 | | | | |
| Ser | Glu | Phe | Ile | Asn | Leu | Met | Asp | Ala | Lys | Gly | Asn | Phe | Val | Phe | Ser | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Asp | Arg | Gln | Ala | Lys | Arg | Met | Glu | Arg | Ser | Met | Ala | Asn | Ile | Glu | Phe | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Gly | Phe | Gly | Glu | Gly | Gly | Tyr | Gln | Pro | Thr | Glu | Phe | Ile | Lys | Arg | Tyr | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| Leu | Pro | Asp | Gly | Tyr | Phe | Asp | Leu | Leu | Val | Leu | Asp | Glu | Gly | His | Glu | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| Tyr | Lys | Asn | Ser | Gly | Ser | Ala | Gln | Gly | Gln | Ala | Met | Gly | Val | Leu | Ala | |
| | 355 | | | | | | 360 | | | | | 365 | | | | |
| Ala | Lys | Ala | Arg | Lys | Thr | Val | Leu | Leu | Thr | Gly | Thr | Leu | Met | Gly | Gly | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Tyr | Ala | Asp | Asp | Leu | Phe | Tyr | Leu | Leu | Phe | Arg | Ile | Leu | Thr | Gln | Arg | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| Met | Ile | Glu | Asp | Gly | Tyr | Arg | Pro | Asn | Ala | Arg | Gly | Ser | Met | Ala | Pro | |
| | | | | 405 | | | | | 410 | | | | | 415 | | |
| Ala | Ala | Met | Ser | Phe | Met | Arg | Asp | His | Gly | Val | Leu | Lys | Asp | Ile | Tyr | |
| | | | 420 | | | | | 425 | | | | | 430 | | | |
| Thr | Glu | Arg | Asp | Gly | Asp | Ser | His | Lys | Thr | Ala | Arg | Gly | Lys | Lys | Leu | |
| | 435 | | | | | | 440 | | | | | 445 | | | | |
| Ser | Val | Arg | Thr | Val | Lys | Ala | Pro | Gly | Phe | Gly | Pro | Lys | Gly | Ile | His | |
| | 450 | | | | | 455 | | | | | 460 | | | | | |
| Arg | Phe | Val | Leu | Pro | Phe | Thr | Val | Phe | Leu | Lys | Leu | Lys | Asp | Ile | Gly | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | |
| Gly | Asn | Val | Leu | Pro | Asp | Tyr | Gln | Glu | Glu | Phe | Ile | Asp | Val | Pro | Met | |
| | | | | 485 | | | | | 490 | | | | | 495 | | |
| Ala | Pro | Glu | Gln | Ala | Ser | Ala | Tyr | Gln | Arg | Leu | Ala | Ala | Thr | Leu | Thr | |

Asp Glu Leu Thr Gly Trp Leu Ser Asn His Phe Thr Gly Leu Arg Ile
 165 170 175
 Tyr Ala Ala Ala Asp Pro Thr Phe Lys Gln Val Val Ile Phe Gly Ile
 180 185 190
 Arg Val Arg Arg Gln Asp Leu Ala Arg Ala Asp Ala Asn Gln Val Arg
 195 200 205
 Ser Arg Leu Gln Ala Ile Gly Ala Gly Gln Glu Lys Ala Glu Glu Ile
 210 215 220
 Pro Ala Ala Trp Pro Trp Glu Pro Tyr Val Val Leu Pro Ala Thr Ser
 225 230 235 240
 Glu Leu Glu His Phe Tyr Arg Val Thr Leu Glu Pro Glu Gln Phe Ala
 245 250 255
 Gly Glu Ile Gln Arg Leu Arg Gly Leu Trp Pro Asp Phe Asn Leu His
 260 265 270
 Phe Ala Gln Ala Gly Leu Gln Pro Arg Pro Pro Val Arg Glu Leu Ser
 275 280 285
 Arg Trp His Leu Ala Leu Ala Leu Ala Ala Gly Ala Ile Ser Gly Val
 290 295 300
 Val Arg Ser Lys Ser Gly Arg Ile Leu Val Val Lys Gly Asp Thr Tyr
 305 310 315 320
 Lys Asp Lys Val Arg Lys Thr Glu Phe Thr Glu Asp Asp Asp Gly Asn
 325 330 335
 Ile Thr Glu Val Arg Ile Leu Thr Asp Arg Phe Ile Pro Ile Ile Arg
 340 345 350
 Ala Trp Glu Met Thr Pro Ser Ser Val Asn Gln Gly Arg Val Leu Thr
 355 360 365
 Ile Ser Ser Ser Ala Ala Thr Thr Glu Glu Ala Glu Glu Pro Gln Pro
 370 375 380
 Glu Pro Ala Pro Ala Pro Ala Pro Leu Leu Ile Ser Pro Gly Arg Val
 385 390 395 400
 Val Met Thr Ala Ala Val Ser His Leu Val Glu Thr Gly Gln Leu Asn
 405 410 415
 Pro Ala Pro Leu Lys Arg His Leu Ala Gly Asp Trp Gly Thr Leu
 420 425 430
 Asp Gln Glu Asp Trp Asn Thr Asn Gln Arg Ala Leu Lys Phe Gly Asp
 435 440 445
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 465 470 475 480
 Ser Asp Tyr

<210> 166

<211> 201

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 166

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 35 40 45
 Thr Leu Gly Arg Glu Glu Asn Gly Ile Asp His Phe His Ile Ile Val
 50 55 60
 Asp Gly Arg Arg Leu Pro Val Phe Pro Asn Gln Asp Leu Leu Glu Lys

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Arg | Thr | Thr | Arg | Gln | Phe | Arg | Gly | Thr | Leu | Phe | Gly | Ser | Leu | Leu | Asn |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Trp | Leu | Phe | Asp | Arg | Arg | Ala | Ser | Ala | Pro | Asp | Arg | Gly | Asn | His |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Ala | Phe | Ala | Leu | Leu | Gln | Arg | Asp | Glu | Asp | Pro | His | Gln | Arg | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Trp | Pro | Leu | Val | Met | Glu | Thr | Cys | Pro | Leu | Pro | Leu | Leu | Gln | His | Trp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Arg | Glu | Pro | Val | Met | Glu | Val | Leu | Thr | Gln | His | Gln | Met | Leu | Thr | Ala |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Leu | Pro | Gly | Thr | Ile | Gly | Asn | Val | Cys | Ala | Trp | Arg | Leu | Ala | Leu | Arg |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Val | Asp | Val | Leu | Glu | Pro | Thr | Leu | Gly | Glu | Val | Ile | Arg | Glu | Ser | Ile |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Leu | Thr | Thr | Asp | Ala | Gln | Ala | Gln | Ala | | | | | | | |
| | | 195 | | | | | 200 | | | | | | | | |

<210> 167
 <211> 84
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 167

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Pro | Leu | Phe | Thr | Asn | Leu | Thr | Gln | Glu | Thr | Leu | Ala | Tyr | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | Asp | Gln | Leu | Ser | Asn | Asn | Asp | Val | Ala | Gly | Asp | Asp | Glu | Leu | Ile |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Asp | Leu | Phe | Ile | Glu | Glu | Leu | Ser | Leu | Thr | Leu | Glu | Gln | Ala | Glu | Ala |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Ala | Val | Ala | Leu | Arg | Asp | Gln | Tyr | Leu | Cys | Gln | Val | Phe | Leu | Ile | Gly |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Gln | Gly | Pro | Leu | His | Gln | Ala | Asp | Gly | Leu | Ser | Phe | Asp | Pro | His | Thr |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Lys | Ser | Val | Arg | | | | | | | | | | | | |

<210> 168
 <211> 120
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 168

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| Met | Gly | Trp | Leu | Phe | Ser | His | Gln | Thr | Lys | Glu | Asp | Leu | Leu | Arg | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Leu | Ala | Pro | Thr | Ser | Thr | Phe | Ala | Gly | Ser | Thr | Glu | Val | Leu | Ala |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| His | Ala | Val | Ser | Gly | Asn | Glu | Leu | Trp | Thr | Val | Val | Lys | Arg | Thr | Phe |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| His | Leu | Ala | Gly | Phe | Tyr | Phe | Gly | Lys | Pro | Ala | Gly | His | Ser | Ile | Thr |
| | 50 | | | | 55 | | | | 60 | | | | | | |
| Met | Ile | Glu | Leu | His | Leu | Leu | Asp | Cys | Ser | Ala | Gly | Gln | Trp | Gly | Tyr |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Lys | Thr | Ile | Pro | Glu | Ser | Ala | Gly | Pro | Phe | Tyr | Tyr | Gly | Cys | Pro | Leu |
| | | | 85 | | | | 90 | | | | | | 95 | | |
| Glu | Phe | Leu | Asp | Leu | Ala | His | Asp | Glu | Ile | Asn | Gln | Glu | Trp | Arg | Lys |
| | | 100 | | | | | 105 | | | | | 110 | | | |

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 115 120

<210> 169
 <211> 91
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 169
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 35 40 45
 Ala Leu Arg Glu Arg Val Lys Thr Pro Ser Pro Glu His Ala Ala Asp
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 Asn Glu Pro Trp Leu Tyr Cys Asp Trp Gln Ala Arg Gln Thr Ala Tyr
 65 70 75 80
 Arg Leu Leu Gln Arg Leu Glu Arg Ala Thr Arg
 85 90

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 <211> 136
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 170
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 35 40 45
 Glu Phe Ile Ile Lys Asp Ala Phe Leu Asp Gln His Thr Glu Gly Lys
 50 55 60
 Tyr Arg Gly Asp Phe Val Ile Ala Asn Ile Arg Pro His His Tyr Ser
 65 70 75 80
 Ala Gly Gly Arg Leu Val Ile Glu Ile Arg Ala Ile Val Asp Ser Met
 85 90 95
 Thr Leu Asn Asp Met Asp Ser Leu Ser Asp Glu Glu Val Glu Arg Leu
 100 105 110
 Ser Gly Asn Glu Val Asp Pro Leu Asp Glu Val Pro Glu Ile Gln Leu
 115 120 125
 Pro Thr Val Val Pro Ala Ile Pro
 130 135

<210> 171
 <211> 209
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 171
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 1 5 10 15
 Leu Lys Leu Pro Ile Val Leu Thr Asn Ala Ala Trp Leu Arg Leu Val

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| Tyr | Leu | Ala | Asn | Pro | Ala | Arg | Val | Asp | Glu | Met | Gly | Thr | Arg | Leu | Ala | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Ser | Val | Val | Gln | Thr | Ala | Trp | Gln | Glu | Leu | Ser | Leu | Gln | Pro | Thr | Ala | | |
| | | 50 | | | | 55 | | | | | 60 | | | | | | |
| Lys | His | Ile | Gln | Phe | His | Leu | Tyr | His | Lys | Glu | Glu | Gly | Gln | Asp | | | |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | | | |
| Arg | Ala | Leu | Ala | Leu | Val | Leu | Ser | Ile | Val | Glu | Pro | Ser | Asp | Glu | | | |
| | | | 85 | | | | | 90 | | | | | 95 | | | | |
| Pro | Ser | Tyr | Leu | Arg | Ile | Glu | Leu | Gln | Glu | Glu | Cys | Leu | Ala | Glu | His | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| Pro | Val | Thr | Glu | Pro | Lys | Ser | Pro | Ser | Pro | Gln | Lys | Ser | Lys | Pro | Leu | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | |
| Cys | Leu | Ala | Ala | Thr | Arg | Asp | Ala | Pro | Phe | Gly | Met | Asp | Thr | Pro | Ala | | |
| 130 | | | | | | 135 | | | | | 140 | | | | | | |
| Pro | Ala | Glu | Gln | Ala | Ala | Ser | Leu | Asp | Thr | Asp | Ala | Asp | Ala | Glu | Leu | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Phe | Gly | Thr | Val | Trp | Pro | Leu | Gly | Glu | Ile | Val | Lys | Leu | Asp | Thr | Thr | | |
| | | | 165 | | | | | 170 | | | | | | 175 | | | |
| Val | Asp | Arg | Lys | Arg | Leu | Arg | Gln | Gln | Cys | Val | Arg | Leu | Gly | Ala | Leu | | |
| | | 180 | | | | | 185 | | | | | | 190 | | | | |
| Gly | Tyr | Glu | Leu | Asp | Phe | Lys | Gln | Gln | Val | Trp | Thr | Arg | Lys | Glu | Ala | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | |

Ala

<210> 172
 <211> 235
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 172

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Thr | Gln | Leu | Asn | Pro | Phe | Ile | Arg | Gly | Tyr | Glu | Ser | Phe | Arg | Ile | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Glu | Arg | Asn | Leu | Gln | Ile | Thr | Asp | Glu | Gly | Asn | Asn | Leu | Pro | Cys | Tyr | | |
| | | 20 | | | | | | 25 | | | | | 30 | | | | |
| Arg | Ala | Leu | His | Glu | Thr | Gln | Gln | His | Leu | Pro | Asp | Glu | Tyr | Phe | Gln | | |
| | | 35 | | | | 40 | | | | | 45 | | | | | | |
| Cys | Glu | Leu | Cys | Tyr | Phe | Asn | Asn | Asp | Phe | Ala | Val | Val | Val | Gln | Glu | | |
| 50 | | | | | 55 | | | | | 60 | | | | | | | |
| Leu | Asp | Asp | Glu | Arg | Val | Glu | Lys | Cys | Pro | His | Gln | Gly | Ile | Val | Arg | | |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 | | |
| Asn | Val | Leu | Tyr | Ser | Ile | Tyr | Gly | Glu | Gln | Asp | Gly | Arg | Lys | Lys | Leu | | |
| | | | 85 | | | | | 90 | | | | | 95 | | | | |
| Ile | Gly | Asp | Gln | Tyr | Ser | Leu | Thr | Glu | Ala | Glu | Ser | Val | Val | Arg | Tyr | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| Leu | Ser | Phe | Gly | Gly | Gly | Tyr | Asn | Pro | Cys | Trp | Glu | Ile | Arg | Lys | Thr | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | |
| His | Leu | Pro | Ile | Ser | Ala | Trp | Asn | Ser | Leu | Tyr | Glu | Arg | Phe | Ser | Thr | | |
| 130 | | | | | 135 | | | | | | 140 | | | | | | |
| Lys | Met | Pro | Ile | Arg | Leu | Pro | Ser | Val | Leu | Val | Ser | Leu | Phe | Trp | Cys | | |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 | | |
| Asn | Glu | His | Gly | Ala | Val | Gly | Phe | Arg | Leu | His | Asn | Thr | Pro | Trp | Thr | | |
| | | | 165 | | | | | 170 | | | | | | 175 | | | |
| Asp | Glu | Cys | Leu | Glu | Ile | Leu | Glu | Met | Thr | Ala | Ala | Ala | Leu | Arg | Gln | | |
| | | 180 | | | | | 185 | | | | | | 190 | | | | |
| Glu | Gln | Leu | Ala | Phe | Gly | Leu | Asp | Glu | His | Leu | Val | Asp | Leu | Leu | His | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | |

Leu Ala Gly Gln Ala Asp Ile Arg Leu Leu Val Leu Asp Pro Phe Ala
 210 215 220
 Pro Thr Leu Lys Gly Leu Pro Leu Tyr Asp Asp
 225 230 235

<210> 173
 <211> 78
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 173
 Met Gly Leu Val Phe Pro Thr Glu Arg Arg Ile Thr Met Gln Tyr Gly
 1 5 10 15
 Lys Leu Ala Leu Ala His Leu Ser Leu Glu Leu Pro Leu Gln Val Leu
 20 25 30
 Met Asn Lys Asn Arg Ala Tyr Tyr Ile Gly Thr Ser Asp Glu Glu Gly
 35 40 45
 Pro Ala Ser Arg Glu Ser Val Glu Tyr Tyr Pro Ser Arg Glu Leu Ala
 50 55 60
 Gln Gln Ala Leu Asp His Gly Thr Trp Thr Gln Leu Glu Tyr
 65 70 75

<210> 174
 <211> 88
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 174
 Met Gly Asn Val Trp Arg Leu Cys Gln Gly Arg Tyr Leu Gly Ile Val
 1 5 10 15
 Val Gly Gln Glu Gln Pro Gly Glu Val Ala Glu Leu Thr Ala Glu Gln
 20 25 30
 Gln Leu Val Leu Asp Val Ala Glu Ala Asn Leu Leu Asn Phe Arg Gln
 35 40 45
 Gly Gly Gln Phe Tyr Asp Leu Asp Val Ala His Asp Asp Leu Gln Ile
 50 55 60
 Met Glu Asn Thr Thr Pro Trp Gly Glu Met Val Pro Pro Gly Trp Val
 65 70 75 80
 Cys Asp Glu Glu Trp Arg Ile Ala
 85

<210> 175
 <211> 179
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 175
 Leu Thr Gly Lys Val Phe Leu Arg Phe Arg Leu Arg Asn Trp Arg Ile
 1 5 10 15
 Ile Met Ser Asn Asn Thr Gln Ala Gln Glu Ala Lys Tyr Phe Asp Leu
 20 25 30
 His Thr Thr Gly Ile Gly Tyr Leu Asn Arg Ile Arg Glu Val Pro Ile
 35 40 45
 Arg Arg Gly Glu Pro Phe Leu Ala Val Thr Val Ala Ala Leu His Gly
 50 55 60
 Ala Ala Asp Ser Val Glu Tyr Ser Tyr Ile Asp Cys Lys Val Val Gly

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ala | Gln | Ala | Glu | Lys | Leu | Val | Arg | Arg | Cys | Lys | Glu | Ala | Val | Glu | Ala |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Lys | Lys | Val | Leu | Ile | Ser | Phe | Arg | Ile | Gly | Asp | Ile | Trp | Ala | Asp |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Phe | Ile | His | Gln | Lys | Gly | Glu | Lys | Gln | Gly | Lys | Pro | Asp | Ala | Ser |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Lys | Gly | Arg | Leu | Leu | Phe | Ile | Ser | Trp | Ile | Lys | Val | Asp | Gly | Thr |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Thr | Val | Tyr | Asp | Ala | Lys | Glu | Glu | Ala | Glu | Lys | Ala | Gln | Gln | Gly | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gly | Glu | Pro | Gln | Gly | Glu | Pro | Ala | Ala | Pro | Ala | Glu | His | Ala | Glu | Gln |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Ala | Ala | | | | | | | | | | | | | |

<210> 176
 <211> 188
 <212> PRT
 <213> Pseudomonas aeruginosa

| | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 176 | | | | | | | | | | | | | | | |
| Met | Ser | Lys | Gln | Ser | Thr | Ser | Phe | Glu | Ile | Gly | Phe | Ala | Leu | Gly | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Val | Arg | Glu | Phe | Arg | Arg | Ala | Leu | Ser | Arg | Pro | Pro | Val | Val | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Ala | Gln | Ala | Pro | Val | Ala | Leu | Arg | Val | Gln | Arg | Ile | Asp | Pro | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Leu | Ala | Gly | Pro | Thr | Ala | Gly | Glu | Leu | Glu | His | Ile | Ser | Asp | Ile |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Ala | Ile | Val | Arg | Leu | Lys | Lys | Val | Asn | Leu | Asn | Asp | Trp | Tyr | Leu |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Ala | Asn | Thr | Arg | Glu | Val | Gln | Lys | Pro | Lys | Arg | Ala | Arg | Lys | Pro | Lys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Pro | Ala | Lys | Ala | Thr | Ala | Lys | Ala | Glu | Thr | Pro | Val | Arg | Lys | Glu | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Met | Gly | Ser | Leu | Asp | His | Leu | Ile | Ala | Pro | Asn | Ser | Glu | Ser | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Met | Gly | Arg | Pro | Pro | Leu | Gln | Leu | Glu | Ser | Leu | Asn | Asp | His | Glu | Ile |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ala | Leu | Leu | Pro | Ala | Pro | Gly | Ser | Ala | Val | Ser | Trp | Glu | Leu | His | |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
| Arg | Arg | Thr | Gln | Glu | Gln | Tyr | Gln | Gln | Arg | Trp | Gln | Asp | Tyr | Leu | Ser |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Thr | Met | Thr | Asp | Glu | Gln | Val | Ala | Ala | Leu | Gly | Arg | | | | |
| | | | 180 | | | | | 185 | | | | | | | |

<210> 177
 <211> 214
 <212> PRT
 <213> Pseudomonas aeruginosa

| | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 177 | | | | | | | | | | | | | | | |
| Met | Val | Phe | Leu | Leu | Gln | Val | Glu | Gly | Ala | Glu | Lys | Thr | Leu | Ala | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Gly | Lys | Trp | Ile | Pro | Arg | Trp | Val | Ala | Glu | Gly | Ser | Phe | Tyr | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |

Pro Arg Pro Thr Asp Arg Ala Thr Arg Ser Tyr Ala Val Leu Gly Trp
 35 40 45
 Ile Asn Thr Val Gly Cys Ala Ala Ala Phe Arg Ile Arg Ala Ala Trp
 50 55 60
 Gly His Val Ala Asp Asn Val Ser Arg Ser Arg Val His His Arg Ser
 65 70 75 80
 Gly Gly Arg Lys Cys Gln Gly Gln Ala Gly Gly Gly Ala Asp Ala Ala
 85 90 95
 Gly Gly Glu Arg Gly Arg Lys Ser Ala Ala Gly Arg Asn Pro Val Lys
 100 105 110
 Gly Phe Pro Ser Arg Val Trp Lys Gly Ser Gln Val Ser His Leu Trp
 115 120 125
 Leu Asn Arg Arg Ser Leu Gly Ile Asp Arg Leu Asp Pro Ile Thr Arg
 130 135 140
 Pro Leu Ser Trp Leu Gly Gln Gln Thr Val Gly Thr His Pro Arg Thr
 145 150 155 160
 Lys Gly Ala Leu Arg Ile Thr Gly Gly Pro Pro Ala Gly Arg Arg Ile
 165 170 175
 Pro Met Gly Ser Leu Ile Val Leu Glu Gln Glu His Gln Ala Thr His
 180 185 190
 Gly Glu Gly Lys Arg Arg Gly Arg Asn Thr Ser Thr Thr Leu Lys Ser
 195 200 205
 Arg Lys His Arg Thr Ser
 210

<210> 178
 <211> 145
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 178
 Met Pro Leu Met Trp Ile Val Leu Val Leu Ala Leu Ile Thr Gly Thr
 1 5 10 15
 Trp Leu Ser Val Gln Ser Asp His Ala Thr Ser Ser Ala Glu Leu Ala
 20 25 30
 Glu Val Asp Thr Leu Ala Arg Ser Leu Leu Leu Phe Arg Ser Ser Leu
 35 40 45
 Ala Glu Tyr Ala His Ala Asn Pro Gly Phe Thr Gly Ser Pro Ala Asp
 50 55 60
 Ser Ala Leu Gly Leu Pro Ala Trp Phe Arg Lys Pro Ala Arg Leu Gln
 65 70 75 80
 Gly Tyr Ile Ala Ala Gly Thr Ser Tyr Ala Phe Ile Ala Ser Pro Pro
 85 90 95
 Ala Gly Leu Ala Ala Ala Val Asp Ala Gly Thr Glu Ser Asp Leu Val
 100 105 110
 Gly Val Arg Arg Asn Gly Gln Leu Val Thr Arg Arg Leu Gly Ala Thr
 115 120 125
 Val Ile Ala Leu Pro Thr Pro Ile Pro Glu Gly Ala Val Val Ala Val
 130 135 140
 Lys
 145

<210> 179
 <211> 442
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 179

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Ser | Thr | Arg | Ser | Ser | Gly | Phe | Ile | Ser | Ile | Glu | Leu | Met | Ile |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Ala | Leu | Val | Val | Ile | Ala | Ile | Ala | Thr | Ala | Gly | Gly | Ile | Ser | Val | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Met | Ser | Tyr | Leu | Asp | Gly | Leu | Asp | Glu | Gln | His | Ala | Ala | Gln | Gln | Gln |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Gln | Val | Ala | Lys | Ala | Ala | Glu | Lys | Tyr | Leu | Lys | Asp | Asn | Phe | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Thr | Val | Leu | Ala | Ser | Ala | Gly | Ala | Thr | Ala | Pro | Ala | Val | Ile | Thr | Val |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Pro | Met | Leu | Arg | Asn | Thr | Arg | Tyr | Leu | Pro | Ala | Gly | Phe | Arg | Asp | Thr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asn | Ile | Tyr | Gly | Gln | Gln | Tyr | Gln | Val | Leu | Ala | Arg | Lys | Pro | Ala | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asn | Gln | Leu | Glu | Thr | Leu | Ile | Val | Thr | Thr | Gly | Gly | Gln | Val | Ala | Ser |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Glu | Leu | Ser | Ile | Arg | Arg | Ile | Ala | Gln | Leu | Met | Gly | Ala | Thr | Gly | Gly |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Tyr | Ile | Ser | Lys | Thr | Asn | Thr | Ser | Ile | Ala | Gln | Gly | Ala | Ala | Trp | Gln |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Val | Ala | Leu | Ser | Asn | Phe | Gly | Ser | Ala | Pro | Gly | Ala | Gly | His | Leu | Ala |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Thr | Ala | Leu | Phe | Phe | Gln | Asp | Gly | Ala | Ile | Ala | Asn | Glu | Tyr | Leu | Tyr |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Arg | Asn | Ala | Val | Pro | Gly | His | Pro | Glu | Leu | Asn | Arg | Met | Asn | Thr | Thr |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Asp | Met | Gly | Gly | Asn | Asn | Ile | Ala | Ala | Ala | Gly | Ala | Ile | Thr | Ala |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ser | Gly | Asn | Ile | Thr | Thr | Ser | Ala | Asp | Ile | Ser | Ala | Arg | Asn | Val | Thr |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Ala | Thr | Gly | Thr | Val | Lys | Ala | Gly | Thr | Ala | Asp | Val | Ala | Gly | Glu | Thr |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Tyr | Thr | Gly | Gly | Trp | Phe | Arg | Thr | Arg | Gly | Asp | Thr | Gly | Trp | Tyr | Asn |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Glu | Lys | Trp | Gly | Gly | Gly | Trp | Tyr | Met | Ser | Asp | Ser | Thr | Trp | Val | Arg |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Ser | Trp | Met | Asn | Lys | Asn | Val | Tyr | Thr | Gly | Gly | Glu | Met | Lys | Ala | Gly |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Leu | Thr | Ala | Glu | Gly | Arg | Thr | Glu | Val | Gly | Glu | Tyr | Leu | Gln | Leu |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Lys | Gly | Val | Ala | Thr | Glu | Gly | Ala | Asn | Cys | Ser | Pro | Asn | Gly | Leu | Ala |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Gly | Ile | Thr | Ser | Thr | Gly | Leu | Trp | Leu | Ser | Cys | Gln | Asn | Gly | Lys | Trp |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Gly | Arg | Thr | Ala | Ala | Ser | Met | Arg | Leu | Asn | Thr | Thr | Ala | Gly | Val | Ile |
| | | | 355 | | | | 360 | | | | | 365 | | | |
| Lys | Asp | Trp | Cys | Thr | Leu | His | Gly | Gln | Asp | Ser | Ala | Met | Val | Asn | Tyr |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Asp | Tyr | Val | Arg | Tyr | Ala | Ile | Thr | Cys | Gly | Gly | Arg | Phe | Cys | Ala | Val |
| 385 | | | | | 390 | | | | | | 395 | | | 400 | |
| Gly | Phe | Asn | Gln | Thr | Phe | Gly | Thr | Asn | Tyr | Ser | Phe | Gly | Leu | Ile | Thr |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Ile | Gly | Pro | Gly | Phe | Asn | Tyr | Pro | Glu | Pro | Tyr | Lys | Thr | Pro | Asp |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Ser | Thr | Asn | Val | Thr | Val | Thr | Cys | Val | Asn | | | | | | |
| | | 435 | | | | | 440 | | | | | | | | |

<210> 180
 <211> 313
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 180
 Val Ser Val Asn Pro Ile Ile Gln Ala Gln Phe Val Asp Leu Tyr Leu
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 Gly Glu Gly Phe Ala Asp Val Lys Gly Leu Ala Gly Ala Gly Ala Arg
 20 25 30
 Arg Val Glu Val Pro Arg Glu Trp Glu Ser His Val Gln Glu Leu Leu
 35 40 45
 Gln Ile Cys Arg Gln Thr Leu Glu Glu Leu Gln Asp Pro Glu Phe Ala
 50 55 60
 Ile Val Val Asp Gly Val Leu Leu Arg Val Thr Leu Leu Glu Asp Ala
 65 70 75 80
 Phe Ser Gly Ser Val Phe Val Leu Arg Arg Ser Ser Ala Gln Leu Arg
 85 90 95
 Glu Phe Gln Glu Ile Gly Tyr Pro Ser Glu Val Val Ser Ala Leu Met
 100 105 110
 Asp Pro Gln Leu Gln Gly Leu Val Leu Phe Cys Gly Glu Met Ala Thr
 115 120 125
 Gly Lys Thr Ser Ser Ala Ala Ser Leu Leu Leu Ala Arg Leu Gln Glu
 130 135 140
 Leu Gly Gly Val Gly Cys Ala Val Glu Asp Pro Gln Glu Thr Asn Leu
 145 150 155 160
 Ser Gly Gln His Gly Leu Gly Arg Cys Ile Gln Val Arg Thr Ser Arg
 165 170 175
 Arg Ser Gly Gly Tyr Ser Glu Ala Leu Leu Arg Thr Leu Arg Ala Gly
 180 185 190
 Ala Asp Leu Val Leu Ile Gly Glu Ile Arg Asp Glu Asp Thr Ala Tyr
 195 200 205
 Gln Ala Cys Lys Ala Ser Leu Thr Gly Ser Leu Val Ile Ala Thr Ile
 210 215 220
 His Ala Lys Ser Cys His Gln Ala Ile Glu Arg Leu Val Thr Leu Ala
 225 230 235 240
 Gln Pro Leu Ala Arg Asn Ala Tyr Asp Val Val Ala Glu Gly Ile Gln
 245 250 255
 Ala Val Ile Cys Gln Ala Leu Glu Ser Asp Gly Ser Ser Arg Arg Leu
 260 265 270
 Thr Ala Glu Pro Leu Leu Phe Thr Gly Asp Asp Gly Pro Ser Met Arg
 275 280 285
 Asp Lys Ile Arg Arg Lys Glu Ala His Leu Leu Gln Asp Asp Gln Ala
 290 295 300
 Arg Gln Ser Arg Gln Ser Leu Trp Arg
 305 310

<210> 181
 <211> 176
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 181
 Met Ser Thr Thr Gln Arg Thr Ser Arg Pro Thr Gln Gly Gly Phe Val
 1 5 10 15
 Ser Ile Glu Met Ile Ile Val Leu Ile Ile Ala Ile Gly Val Gly
 20 25 30
 Leu Gly Leu Ala Ala Ala Ala Gly Met Phe Ser Ser Ser Asn Ala Asn

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | 35 | | | | | 40 | | | | 45 | | | | | | |
| Glu | Glu | Gln | Arg | Asn | Ile | Ser | Val | Ile | Ala | Ala | Asn | Ala | Arg | Ala | Leu | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Lys | Thr | Ser | Ser | Gly | Tyr | Gly | Ser | Ser | Gly | Thr | Asn | Leu | Ile | Pro | Ser | | |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | | | |
| Leu | Ile | Ala | Ile | Asn | Gly | Val | Pro | Lys | Asn | Met | Ser | Val | Ser | Ser | Gly | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| Val | Val | Tyr | Asn | Val | Tyr | Gly | Gly | Ser | Val | Thr | Val | Ser | Ser | Thr | Gly | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | |
| Met | Gly | Phe | Ser | Ile | Thr | Thr | Ser | Lys | Leu | Pro | Gln | Asp | Ala | Cys | Ile | | |
| | 115 | | | | | | 120 | | | | | 125 | | | | | |
| Thr | Leu | Ala | Thr | Lys | Ile | Ala | Lys | Asn | Thr | Phe | Glu | Gln | Thr | Lys | Ile | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Asn | Ser | Gly | Ser | Ser | Ile | Thr | Gly | Glu | Val | Thr | Thr | Ala | Ala | Ala | Thr | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Gln | Ala | Cys | Ser | Ser | Asp | Ser | Asn | Ser | Ile | Thr | Trp | Thr | Tyr | Ser | Ser | | |
| | | | | 165 | | | | | 170 | | | | | 175 | | | |

<210> 182

<211> 359

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 182

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Gly | Gly | Phe | Trp | Glu | Gln | Leu | Gln | Phe | Ala | Phe | Tyr | Ser | Lys | Gln | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Phe | Gly | Arg | Lys | Glu | Arg | Leu | Gln | Phe | Tyr | Glu | Ser | Met | Ser | Thr | Leu | | |
| | | 20 | | | | | | 25 | | | | 30 | | | | | |
| Leu | Glu | Asn | Gly | Val | Pro | Leu | Lys | Asp | Ala | Val | Ala | Glu | Val | His | Lys | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Ile | Phe | Ala | His | Glu | Gly | Gln | His | Pro | Phe | His | Pro | Val | Ala | Ile | Ala | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Ser | Arg | Glu | Ala | Leu | Met | Gly | Leu | Ser | Asn | Gly | Lys | Arg | Leu | Ala | Thr | | |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | | | |
| Ala | Met | Ala | Leu | Tyr | Leu | Pro | Ala | Gln | Glu | Arg | Ala | Leu | Ile | Glu | Ala | | |
| | | | 85 | | | | | 90 | | | | | 95 | | | | |
| Gly | Glu | Met | Ser | Gly | Asn | Leu | Val | Gln | Ala | Met | Gly | Asp | Ala | Val | Ser | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| Leu | Val | Glu | Ala | Gln | Ala | Arg | Ile | Arg | Ala | Thr | Ile | Trp | Gln | Ala | Leu | | |
| | 115 | | | | | | 120 | | | | | 125 | | | | | |
| Leu | Tyr | Pro | Ser | Ala | Leu | Ser | Ala | Met | Met | Val | Phe | Leu | Leu | Cys | Ile | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Val | Ala | Tyr | Arg | Met | Val | Pro | Ser | Leu | Ala | Arg | Leu | Ser | Asp | Pro | Val | | |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | | | |
| Thr | Trp | Thr | Gly | Pro | Leu | Ala | Thr | Leu | Asn | Ala | Ile | Ala | Ser | Phe | Val | | |
| | | | 165 | | | | | 170 | | | | | | 175 | | | |
| Thr | Gly | Pro | Gly | Ile | Tyr | Val | Leu | Val | Ala | Val | Ile | Thr | Leu | Thr | Val | | |
| | | 180 | | | | | | 185 | | | | | 190 | | | | |
| Val | Val | Ile | Val | Thr | Leu | Pro | Thr | Tyr | Arg | Trp | Lys | Gly | Arg | Val | Trp | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | |
| Leu | Asp | Arg | Thr | Leu | Pro | Pro | Trp | Ser | Ile | Tyr | Arg | Met | Leu | Gln | Gly | | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | |
| Thr | Thr | Phe | Leu | Leu | Asn | Met | Ala | Val | Met | Leu | Asn | Ala | Gly | Ile | Arg | | |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | | | |
| Pro | Tyr | Asp | Ser | Leu | Ala | Ser | Met | Ile | Lys | Ile | Ser | Pro | Pro | Trp | Leu | | |
| | | | 245 | | | | | | 250 | | | | | 255 | | | |
| Lys | Gln | Arg | Leu | Glu | Ala | Ala | Arg | Tyr | Gly | Val | Gly | Leu | Gly | Gln | Asn | | |
| | | | 260 | | | | | 265 | | | | | 270 | | | | |

Leu Gly Val Ala Leu Arg Ser Ala Gly His Asp Phe Pro Asp Arg Gln
 275 280 285
 Ala Ile Gln Tyr Leu Cys Ile Leu Ala Asn Arg Gly Gly Phe Ser Glu
 290 295 300
 Ala Leu Val Lys Phe Ser Arg Arg Trp Gln Glu Thr Ser Leu Lys Gln
 305 310 315 320
 Ile Glu Leu Ala Ala Gly Leu Val Lys Asn Phe Ala Leu Ile Phe Ile
 325 330 335
 Gly Ala Leu Met Ile Leu Val Leu Leu Gly Ala Tyr Gln Ala Gln Gln
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 Leu Ile Gln Ser Met Asn His
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<211> 526

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 183

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 35 40 45
 Ser His Gln Asn Asp Ile His Val Leu Ser Phe Ile Asp Arg Leu Asp
 50 55 60
 Arg Arg Gly Phe Arg Tyr Gln Leu Asn Leu Thr Asp Leu Gln Thr Ile
 65 70 75 80
 His Gln Leu Tyr Arg Ala Val Ala Met Asp Gly Leu Val Asp Ser Asp
 85 90 95
 Gly Gln Arg Ala Thr Gln Met Gln Glu Arg Val Val Lys Ile Ile Arg
 100 105 110
 Lys Ala Thr Glu Leu Arg Ala Ser Asp Val His Phe Val Val Ser Pro
 115 120 125
 Ala Gly Thr Gly Ser Lys Ile Arg Phe Arg Val Asp Gly Leu Leu Lys
 130 135 140
 Thr Val Glu Gln Phe Arg Ser Gln Glu Leu His Glu Leu Cys Ala Thr
 145 150 155 160
 Ile Tyr Gln Ser Met Cys Asp Val Ala Glu Pro Leu Phe Lys Pro Gln
 165 170 175
 Leu Asp Gln Asp Ala Arg Met Ser Gln Thr Phe Val Glu Lys Leu Asn
 180 185 190
 Leu Phe Ser Ala Arg Ile Ala Thr Arg Pro Arg Ala Gly Gly Phe Leu
 195 200 205
 Met Ile Leu Arg Leu Leu Tyr Asp Asp Thr Gly Leu Asp Ser Leu Glu
 210 215 220
 Gln Leu Gly Tyr Leu Pro Glu Gln Asn Ala Leu Phe Asp Arg Met Met
 225 230 235 240
 Arg Met Pro Tyr Gly Ile Asn Ile Leu Ser Gly Pro Thr Gly Ser Gly
 245 250 255
 Lys Ser Met Thr Leu Lys Val Thr Leu Glu Gly Leu Asp Lys Leu His
 260 265 270
 Gly Gly Ser Lys His Ile Leu Thr Ile Glu Asp Pro Pro Glu Tyr Arg
 275 280 285
 Ile Arg Gly Glu Gly Ile Asn Gln Thr Pro Leu Val Tyr Asp Ala Thr
 290 295 300
 Asp Pro Asp Ala Glu Arg Gln Ala Trp Ala Ala Gly Ile Ala Asn Gly

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Met | Arg | Leu | Asp | Pro | Asp | Tyr | Met | Met | Ile | Gly | Glu | Val | Arg | Asp | Leu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Phe | Ala | Ala | Val | Ala | Ala | Phe | Arg | Gly | Ala | Met | Thr | Gly | His | Gly | Leu |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Trp | Ser | Thr | Leu | His | Thr | Asn | Ser | Ala | Ile | Gly | Ile | Val | Gln | Arg | Leu |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Lys | Asp | Leu | Gly | Val | Asp | Pro | Gly | Leu | Leu | Phe | Asp | Pro | Ala | Leu | Leu |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Thr | Gly | Leu | Ile | Asn | Gln | Ser | Leu | Leu | Pro | Lys | Leu | Cys | Pro | His | Cys |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Lys | Val | Arg | Phe | Gln | Asp | His | Gln | Asp | Gln | Leu | Ala | Pro | Asp | Leu | Val |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Arg | Val | Arg | Arg | Leu | Thr | Asp | Val | Ser | Gln | Val | His | Val | Lys | Gly |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Pro | Gly | Cys | Gln | Ala | Cys | Arg | Gly | Ser | Gly | Val | Asn | Gly | Arg | Ser | Ile |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Val | Ala | Glu | Val | Val | Leu | Pro | Thr | Leu | Ala | Phe | Met | Arg | Val | Phe | Ala |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Lys | Gly | Gly | Pro | Ala | Glu | Ala | Arg | Asn | Tyr | Trp | Val | Lys | Thr | Met | Gln |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Gly | Ile | Thr | Lys | His | Ala | His | Ala | Ile | Arg | Arg | Ile | Asn | Glu | Gly | Met |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Phe | Asp | Pro | Gln | Met | Val | Glu | Asp | Phe | Ile | Gly | Pro | Leu | Asp | Phe | Asp |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Glu | His | Leu | Leu | Asp | Asp | Ser | Phe | Tyr | Ser | Gln | Glu | Ala | Cys | | |
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 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 184

| | | | | | | | | | | | | | | | |
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| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Ala | Ser | Gly | Gln | Ala | Cys | Ala | Gly | Thr | Val | Gly | Glu | Leu | Ala | Glu | Ile |
| | | | 20 | | | | 25 | | | | | 30 | | | |
| Gln | Ala | Gln | Ala | Ile | Leu | Thr | Glu | Ala | Lys | Val | Arg | Leu | Ala | Thr | Ala |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Gln | Arg | Gln | Leu | Glu | Gly | Lys | Gly | Glu | Thr | Gly | Gln | Val | Val | Ser | Ala |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Gln | Gly | Gln | Thr | Phe | Ala | Met | Pro | Val | Pro | Ala | Ala | Pro | Pro | Thr | Ile |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Thr | Gln | Pro | Val | Pro | Pro | Val | Val | Arg | Thr | Ile | Tyr | Gly | Ala | Gly | Gly |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Lys | Met | Thr | Ala | Thr | Phe | Leu | Phe | Pro | Gly | Gly | Tyr | Glu | Val | Asp | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Ser | Gly | Ala | Glu | Leu | Pro | Gly | Lys | Tyr | Arg | Val | Glu | Ser | Ile | Ser |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Asp | Gln | Val | Val | Leu | Thr | Asp | Lys | Asp | Gly | Asn | Arg | Val | Pro | Val |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gly | Phe | Ser | Ser | Val | Ala | Pro | Thr | Gln | Ala | Ser | Ser | Thr | Ala | Gln | Gly |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ala | Ser | Val | Pro | Pro | Ala | Leu | Pro | Gly | Ala | Val | Pro | Gln | Pro | Phe | Ile |
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Gln

<210> 185
 <211> 441
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 185

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Tyr | His | Gly | Asn | Lys | Phe | Val | Ser | Gly | Leu | Phe | Trp | Arg | Pro | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ser | Gln | Arg | Gln | Tyr | Met | Lys | Glu | Ala | Arg | Lys | Leu | Gly | Lys | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | His | Leu | Asp | Ile | Val | Ala | Ile | Arg | His | Ser | Pro | Thr | Val | Ile | Gln |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Ala | Gly | Phe | Val | Ser | Lys | Ser | Gln | Gly | Ala | Val | Lys | Gly | Met | Tyr | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Leu | Ala | Ser | Ala | Leu | Ser | Gly | Gln | Phe | Asp | Gly | Asp | Phe | Leu | Ala | Cys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Trp | Lys | Val | Asp | Glu | Asp | Arg | Tyr | Ala | Leu | Val | Ala | Thr | Leu | Asp | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Ile | Val | Pro | Gly | Gln | Asp | Leu | Val | Thr | Thr | Leu | Asp | Glu | Ala | Arg |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Asp | Arg | Val | Arg | Lys | Leu | Ser | Thr | Arg | Gly | Val | Leu | Arg | Asn | Ala | Gln |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Val | Phe | Val | Pro | Glu | Gly | Phe | Asp | Phe | Pro | Val | Lys | Asp | Phe | Asp | Ile |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Glu | Glu | Leu | Leu | Ala | Pro | Lys | Arg | Leu | Arg | Arg | Asp | Tyr | Arg | Leu | Arg |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Gln | Leu | Thr | Phe | Gly | Leu | Ser | Ala | Arg | Glu | Trp | Thr | Ala | Val | Ala | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Leu | Gly | Cys | Val | Val | Gly | Gly | Ser | Leu | Thr | Ala | Tyr | Tyr | Leu | Trp | Asn |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Ala | His | Gln | Glu | Glu | Leu | Ala | Arg | Gln | Ala | Ala | Leu | Leu | Glu | Glu | Gln |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Arg | Arg | Leu | Ala | Glu | Leu | Ala | Glu | Lys | Asn | Ala | Gln | Ala | Lys | Gln | Pro |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Leu | Asp | Leu | Ala | Ser | Leu | Gln | Lys | Pro | Trp | Thr | Leu | Ile | Pro | Asp | Leu |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Glu | Asp | Met | Leu | Arg | Ala | Cys | Ser | Lys | Ala | Thr | Gly | Val | Leu | Ser | Leu |
| | | 260 | | | | | 265 | | | | | | 270 | | |
| Ser | Ile | Gln | Gly | Trp | Leu | Phe | Glu | Ser | Ser | Lys | Cys | Asp | Gly | Arg | Val |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Leu | Val | Ala | Thr | Tyr | His | Arg | Thr | Gly | Asn | Ser | Thr | Ala | Ala | Asp | Leu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Thr | Ala | Ala | Ser | Gln | His | Leu | Phe | Ala | Asp | Arg | Pro | Ala | Phe | Val | Ile |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Asp | Asn | Gly | Asn | Thr | Ala | Ala | Leu | Lys | Val | Asp | Leu | Lys | Val | Ala | Ile |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Gly | Ser | Asp | Glu | Pro | Leu | Leu | Pro | Ala | Asp | Asp | Val | Leu | Gln | Ala | Leu |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Thr | Ser | His | Leu | Tyr | Arg | Gln | Gly | Val | Glu | Pro | Lys | Leu | Ser | Ile | Ser |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Gln | Glu | Thr | Thr | Pro | Pro | Leu | Pro | Gly | Ala | Glu | Ala | Ala | Thr | Glu | Gln |
| | | 370 | | | | 375 | | | | | 380 | | | | |
| Gln | Val | Val | Leu | Pro | Ser | Trp | Lys | Lys | Phe | Thr | Phe | Ser | Ala | Gln | Thr |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Arg | Leu | Pro | Ala | Asp | Leu | Thr | Phe | Gln | Gly | Leu | Pro | Ala | Ala | Gly | Val |
| | | | | 405 | | | | | 410 | | | | | 415 | |

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Thr Val Thr Gly Glu Ile Tyr Ala Asn
435 440

<210> 186
<211> 540
<212> PRT
<213> *Pseudomonas aeruginosa*

<400> 186
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Lys Pro Trp Val Ser Thr Lys Pro Leu Ser Val Ser His Thr Leu Ser
35 40 45
Ser Asp Cys Ile Val Thr Trp Arg Pro Ala Gly Ala Ala Ser Leu Gln
50 55 60
Glu Ala Ala Gln Glu Val Ile Asn Gln Cys His Met Ala Val Ser Ile
65 70 75 80
Thr Pro Asp Ala Leu Asn Pro Ala Ala Phe Ala Val Gln Pro Gln Gln
85 90 95
Arg Ala Ser Asn Ala Pro Pro Pro Ile Gln Gly Gly Gln Asp Met Ala
100 105 110
Thr Met Leu Phe Pro Ala Ser Val Ala Asn Gly Met Ser Leu Gly Ala
115 120 125
Gly Gly Ser Met Gly Ser Ser Phe Gly Ser Tyr Gly Pro Arg Ser Leu
130 135 140
Tyr Asn Ile Lys Trp Asn Gly Lys Val Ser Gly Phe Leu Asp Leu Ile
145 150 155 160
Ala Ala Arg Ala Gly Val Ser Trp Arg Tyr Asn Pro Thr Glu Lys Arg
165 170 175
Val Glu Phe Tyr Tyr Leu Asp Thr Arg Thr Phe Arg Met Tyr Ala Phe
180 185 190
Asp Asp Val Asn Thr Val Asp Ser Thr Val Arg Ser Gly Met Thr Thr
195 200 205
Ala Ala Gly Ile Ser Gly Asp Gly Ser Gly Ser Thr Gly Gln Asn Gly
210 215 220
Ser Ser Gly Ile Ser Gly Asp Ser Gly Ser Lys Gln Thr Thr Ser Ser
225 230 235 240
Glu Leu Lys Thr Ser Ile Leu Ser Asp Ile Glu Asn Ser Ile Asn Ser
245 250 255
Met Leu Thr Pro Ser Met Gly Arg Met Ser Leu Ser Arg Ala Thr Gly
260 265 270
Thr Leu Thr Val Thr Asp Arg Pro Glu Val Leu Asn Arg Val Gln Gln
275 280 285
Leu Val Asn Arg Glu Asn Glu Ser Ile Thr Lys Gln Val Leu Leu Asn
290 295 300
Val Asn Val Leu Ser Val Ala Leu Thr Asp Lys Asp Gln Leu Gly Ile
305 310 315 320
Asp Trp Asn Leu Val Tyr Lys Ser Leu Asn Asn Lys Trp Gly Ile Gly
325 330 335
Leu Lys Asn Thr Met Pro Gly Ile Asp Gln Ser Ala Ile Ser Gly Ser
340 345 350
Val Ser Ile Leu Asp Thr Ala Asn Ser Ala Trp Ala Gly Ser Lys Ala
355 360 365
Met Val Gln Ala Leu Ala Gln Gln Gly Arg Val Ser Thr Val Arg Ser

| | | |
|---|-----|-----|
| 370 | 375 | 380 |
| Pro Ser Val Thr Thr Leu Asn Leu Gln Ser Ala Pro Ile Gln Ile Gly | | |
| 385 | 390 | 395 |
| Arg Tyr Asp Ser Tyr Leu Ala Ser Ser Gln Ile Ser Asn Val Ala Gln | | 400 |
| | 405 | 410 |
| Val Gly Ser Thr Thr Ser Leu Ile Pro Gly Ala Val Thr Ser Gly Tyr | | 415 |
| | 420 | 425 |
| Asn Met Ser Leu Leu Pro Phe Val Met Glu Ser Gly Glu Met Leu Leu | | 430 |
| | 435 | 440 |
| Lys Ile Asn Ile Asn Met Thr Ser Arg Pro Thr Phe Glu Met Gln Thr | | 445 |
| | 450 | 455 |
| Ser Gly Asp Ser Lys Ala Gln Phe Pro Ser Tyr Asp Ile Gln Leu Phe | | 460 |
| 465 | 470 | 475 |
| Asp Gln Lys Val Arg Leu Arg Ser Gly Glu Thr Leu Val Leu Ser Gly | | 480 |
| | 485 | 490 |
| Phe Asp Gln Thr Thr Glu Asp Thr Asn Lys Val Gly Thr Gly Asp Ala | | 495 |
| | 500 | 505 |
| Gly Phe Phe Gly Leu Gly Gly Gly Leu Thr Arg Asn Thr Lys Arg Glu | | 510 |
| | 515 | 520 |
| Val Ile Val Val Leu Ile Thr Pro Val Val Leu Gly | | 525 |
| | 530 | 535 |
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<211> 374

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 187

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| | 15 |
| | 20 |
| Arg Asn Pro Asp Leu Leu Ser Pro Asp Leu Tyr Pro Asn Gly Val Gln | 25 |
| | 30 |
| | 35 |
| Pro Glu Lys Glu Pro Val Val Arg Tyr Gly Arg Tyr Thr Leu Val Ser | 40 |
| | 45 |
| | 50 |
| Thr Gln Pro Asp Ala Gly Gln Arg Asp Leu Met Ala Gln Ile Ile Asp | 55 |
| 65 | 60 |
| | 65 |
| Val Thr Ile Pro Ser Ser Met Asn Pro Ser Val Lys Asp Ala Met Gln | 70 |
| | 75 |
| | 80 |
| | 85 |
| Tyr Val Met Ser Arg Ser Gly Tyr Ser Leu Cys Pro Ala Asp Ala Gly | 90 |
| | 95 |
| | 100 |
| His Val Asn Ile Leu Tyr Thr Arg Pro Leu Pro Ala Ala Gln Tyr Lys | 105 |
| | 110 |
| | 115 |
| Leu Gly Pro Met Thr Leu Arg Asn Thr Leu Gln Val Leu Ser Gly Pro | 120 |
| | 125 |
| | 130 |
| Ala Trp Gln Val Lys Val Asp Glu Val Ala Arg Gln Val Cys Phe Val | 135 |
| 145 | 140 |
| | 145 |
| Leu Arg Pro Gly Tyr Gln Leu Pro Pro Ala Pro Arg Pro Lys Pro Val | 150 |
| | 155 |
| | 160 |
| | 165 |
| Gln Gln Leu Tyr Ala Lys Pro Ala Ala Pro Thr Pro Pro Ala Val Ala | 170 |
| | 175 |
| | 180 |
| Gln Pro Ser Ser Thr Glu Lys Val Ser Thr Leu Glu Ser Pro Ile Val | 185 |
| | 190 |
| | 195 |
| Val Ala Ser Val Pro Thr Pro Ala Pro Ile Thr Thr Ser His Ala Pro | 200 |
| | 205 |
| | 210 |
| Ala Lys Lys Pro Glu Ser Thr Thr Val Leu Pro Pro Ala Ala Pro Ala | 215 |
| | 220 |
| 225 | 225 |
| | 230 |
| | 235 |
| | 240 |

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| Glu | Arg | Val | Asp | Val | Met | Ser | Ala | Val | Leu | His | Lys | Met | Glu | Ser | Asp | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | |
| Leu | Glu | Gly | Tyr | Lys | Lys | Thr | Phe | Thr | Lys | Gly | Pro | Phe | Ile | Asp | Tyr | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | |
| Glu | Lys | Gln | Ser | Ser | Leu | Ser | Ile | Tyr | Glu | Ala | Trp | Val | Lys | Ile | Trp | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Glu | Lys | Asn | Ser | Trp | Glu | Glu | Arg | Lys | Lys | Tyr | Pro | Phe | Gln | Gln | Leu | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Val | Arg | Asp | Glu | Leu | Glu | Arg | Ala | Val | Ala | Tyr | Tyr | Lys | Gln | Asp | Ser | | |
| | | | 165 | | | | | 170 | | | | | | 175 | | | |
| Leu | Ser | Glu | Ala | Val | Lys | Val | Leu | Arg | Gln | Glu | Leu | Asn | Lys | Gln | Lys | | |
| | | 180 | | | | | | 185 | | | | | 190 | | | | |
| Ala | Leu | Lys | Glu | Lys | Glu | Asp | Leu | Ser | Gln | Leu | Glu | Arg | Asp | Tyr | Lys | | |
| | 195 | | | | | 200 | | | | | 205 | | | | | | |
| Thr | Arg | Lys | Ala | Asn | Leu | Glu | Met | Lys | Val | Gln | Ser | Glu | Leu | Asp | Gln | | |
| | 210 | | | | 215 | | | | | 220 | | | | | | | |
| Ala | Gly | Ser | Ala | Leu | Pro | Pro | Leu | Val | Ser | Pro | Thr | Pro | Glu | Gln | Trp | | |
| 225 | | | | 230 | | | | | 235 | | | | | | 240 | | |
| Leu | Glu | Arg | Ala | Thr | Arg | Leu | Val | Thr | Gln | Ala | Ile | Ala | Asp | Lys | Lys | | |
| | | | 245 | | | | | 250 | | | | | | 255 | | | |
| Gln | Leu | Gln | Thr | Thr | Asn | Asn | Thr | Leu | Ile | Lys | Asn | Ala | Pro | Thr | Pro | | |
| | | 260 | | | | | 265 | | | | | | 270 | | | | |
| Leu | Glu | Lys | Gln | Lys | Ala | Ile | Tyr | Asn | Gly | Glu | Leu | Leu | Val | Asp | Glu | | |
| | 275 | | | | | | 280 | | | | 285 | | | | | | |
| Ile | Ala | Ser | Leu | Gln | Thr | Arg | Leu | Asp | Lys | Leu | Asn | Ala | Glu | Thr | Thr | | |
| | 290 | | | | 295 | | | | | 300 | | | | | | | |
| Arg | Arg | Arg | Thr | Glu | Ala | Glu | Arg | Lys | Ala | Ala | Glu | Glu | Gln | Ala | Leu | | |
| 305 | | | | 310 | | | | | 315 | | | | | | 320 | | |
| Gln | Asp | Ala | Val | Lys | Phe | Thr | Ala | Asp | Phe | Tyr | Lys | Glu | Val | Thr | Glu | | |
| | | 325 | | | | | | 330 | | | | | | 335 | | | |
| Lys | Phe | Gly | Ala | Arg | Thr | Ser | Glu | Met | Ala | His | Gln | Leu | Ala | Glu | Gly | | |
| | 340 | | | | | | 345 | | | | | 350 | | | | | |
| Ala | Arg | Gly | Lys | Asn | Ile | Arg | Ser | Ser | Ala | Glu | Ala | Ile | Asn | Ser | Phe | | |
| | 355 | | | | | 360 | | | | | 365 | | | | | | |
| Glu | Lys | His | Lys | Asp | Ala | Leu | Asn | Lys | Lys | Leu | Ser | Leu | Lys | Asp | Arg | | |
| | 370 | | | | 375 | | | | | 380 | | | | | | | |
| Gln | Ala | Ile | Ala | Lys | Ala | Phe | Asp | Ser | Leu | Asp | Lys | Gln | Met | Met | Ala | | |
| 385 | | | | 390 | | | | | 395 | | | | | | 400 | | |
| Lys | Ser | Leu | Glu | Lys | Phe | Ser | Lys | Gly | Phe | Gly | Val | Val | Gly | Lys | Ala | | |
| | | 405 | | | | | | 410 | | | | | 415 | | | | |
| Ile | Asp | Ala | Ala | Ser | Leu | Tyr | Gln | Glu | Phe | Lys | Ile | Ser | Thr | Glu | Thr | | |
| | | 420 | | | | | 425 | | | | | | 430 | | | | |
| Gly | Asp | Trp | Lys | Pro | Phe | Phe | Val | Lys | Val | Glu | Thr | Leu | Ala | Ala | Gly | | |
| | 435 | | | | | 440 | | | | | 445 | | | | | | |
| Ala | Ala | Ala | Ser | Trp | Leu | Val | Gly | Ile | Ala | Phe | Ala | Thr | Ala | Thr | Ala | | |
| | 450 | | | | 455 | | | | | 460 | | | | | | | |
| Thr | Pro | Ile | Gly | Ile | Leu | Gly | Phe | Ala | Leu | Val | Met | Ala | Val | Thr | Gly | | |
| 465 | | | | 470 | | | | | 475 | | | | | | 480 | | |
| Ala | Met | Ile | Asp | Glu | Gly | Leu | Leu | Glu | Lys | Ala | Asn | Asn | Leu | Val | Met | | |
| | | | 485 | | | | | 490 | | | | | | 495 | | | |

Ser Ile

<210> 190
 <211> 657
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 <213> Pseudomonas aeruginosa

<400> 190

| | | | | | | | | | | | | | | | |
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| 1 | | | | 5 | | | | | 10 | | | | 15 | | |
| Leu | Leu | Gln | Arg | Ala | Ile | Phe | Asp | Gly | Tyr | Asp | Phe | Gly | Leu | Lys | Ile |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Pro | Tyr | Ile | Ala | Gly | Ser | Asn | Arg | Ala | Leu | Leu | Glu | Leu | Ser | Gly | Phe |
| | 35 | | | | | | 40 | | | | | 45 | | | |
| Phe | Ile | Ser | Ala | Arg | Glu | His | Pro | Leu | His | Arg | Tyr | Trp | Arg | Val | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Gly | Lys | Leu | Leu | Pro | Glu | Leu | Asp | Thr | Leu | Tyr | Asn | Arg | Leu | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Glu | Leu | Ala | Gly | Gly | Leu | His | Ser | Gln | Ser | Trp | Arg | Glu | Phe | Ser | Ser |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Leu | Val | Glu | Ser | Ala | Gln | Ala | Ser | Leu | Asp | Arg | Gln | Ala | Phe | Thr | Trp |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Met | Leu | Leu | Arg | Ile | Ala | Pro | Leu | Ala | Glu | Gly | Gly | Val | Leu | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ser | Gly | Glu | Phe | His | Pro | Gly | Val | Val | Ala | Val | Ala | Arg | Arg | Met | Arg |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gly | Val | Phe | Leu | Arg | Pro | Ser | Ser | Ser | Trp | Arg | Ile | Asp | Thr | Thr | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Glu | Leu | Leu | Arg | Ser | Asn | Leu | Ile | Leu | Glu | Leu | Gly | Leu | Ala | Glu | Glu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Gln | Phe | Glu | Ile | Leu | Asp | Thr | Val | Gln | Glu | Leu | Leu | Ser | Asp | Gly | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Phe | Ala | Pro | Ser | Thr | Glu | Leu | Pro | Ser | Met | Ser | Ile | Gly | Gly | Pro | Gln |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Gln | Glu | Pro | Ala | Ala | Pro | Ser | Leu | Glu | Asp | Glu | Ser | Ala | Ser | Asp | Ile |
| | 210 | | | | | 215 | | | | 220 | | | | | |
| Tyr | Leu | Ala | Ala | Val | Pro | Glu | Ile | Glu | Arg | Thr | Glu | Tyr | Ser | Ser | Ala |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Asp | Ile | Glu | Ala | Ala | Leu | Gln | Gly | Tyr | Ser | Leu | Leu | Ala | His | Gln | Pro |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Asp | Gly | Ile | Ala | His | Leu | Leu | Gln | Arg | Thr | Ser | Ala | Leu | Leu | Ala | Asp |
| | | | 260 | | | | 265 | | | | | | 270 | | |
| Asp | Met | Gly | Leu | Gly | Lys | Thr | Arg | Gln | Ala | Val | Ile | Ala | Ala | Ser | Ile |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Arg | Ala | Ala | Gly | Arg | Pro | Ile | Leu | Val | Ile | Thr | Leu | Ala | Thr | Leu | Leu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ile | Asn | Trp | Gln | Arg | Glu | Ile | Gln | Glu | Val | Tyr | Pro | Ser | Ala | Thr | Val |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Ala | Ile | Gln | Gln | Asp | Thr | Pro | Glu | Ala | Gln | Trp | Ile | Leu | Val | Asn | Tyr |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Glu | Gln | Leu | Ser | Pro | Phe | Val | Ala | Asn | Ala | Ser | Arg | Phe | Ala | Val | Met |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Val | Ile | Asp | Glu | Ala | Gln | Arg | Met | Lys | Glu | Pro | Thr | Ala | Gln | Cys | Thr |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Arg | His | Gly | Phe | Asp | Ile | Ala | Ala | Gln | Val | Pro | Asn | Arg | Tyr | Leu | Leu |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Thr | Gly | Thr | Pro | Val | Leu | Asn | Arg | Glu | Thr | Glu | Leu | His | Thr | Leu | Leu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Arg | Leu | Ser | Gly | His | Pro | Ile | Gly | Gln | Leu | Pro | Leu | Lys | Glu | Phe | Cys |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Asp | Arg | Phe | Ala | Gly | Asn | Pro | Glu | Phe | Arg | Gln | Ser | Leu | Arg | Ala | Glu |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Leu | Gly | Asp | Trp | Met | Leu | Arg | Arg | Arg | Lys | Asp | Val | Leu | Pro | Ser | Leu |
| | 435 | | | | | | 440 | | | | | 445 | | | |
| Lys | Gly | Lys | Gln | Arg | Gln | Leu | Leu | Lys | Val | Ala | Leu | Ser | Thr | Glu | Glu |
| | 450 | | | | | 455 | | | | | 460 | | | | |

Arg Gln Gln Tyr Asp Val Leu Arg Leu Glu Asp Arg Pro Val Phe Ala
 465 470 475 480
 Arg Leu Gly Ala Leu Arg Arg Tyr Leu Glu Thr Val Lys Val Arg Val
 485 490 495
 Ala Met Asp Leu Leu Ser Glu Leu Asp Ala Glu Asp Lys Val Ile Leu
 500 505 510
 Phe Cys Glu Phe Lys Pro Thr Val Ala Ala Leu Lys Glu Leu Cys Glu
 515 520 525
 Gln Ala Gly His Gly Cys Val Thr Leu Val Gly Asn Asp Ser Leu Thr
 530 535 540
 Lys Arg Gln Lys Ala Ile Asp Arg Phe Gln Gln Asp Pro Asp Cys Arg
 545 550 555 560
 Val Phe Ile Cys Thr Thr Ala Ala Ala Gly Thr Gly Asn Asn Leu Thr
 565 570 575
 Ala Ala Asn Tyr Val Phe Phe Leu Gly Leu Pro Trp Thr Pro Gly Gln
 580 585 590
 Gln Glu Gln Ala Glu Asp Arg Ala Tyr Arg Asn Gly Gln Leu Arg Met
 595 600 605
 Val Val Val Lys Ile Pro Leu Val Glu Ala Thr Ile Asp Glu Gln Leu
 610 615 620
 Trp Gln Leu Leu Asn Ala Lys Arg Gln Val Ala Gln Asp Leu Ile Glu
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 Pro Glu Gln Val Asp Gly Asn Arg Ala Leu Leu Ala Ala Ser Leu Thr
 645 650 655
 Gly

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 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 191
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 35 40 45
 His Tyr Leu Arg Ser Thr Ser Thr Thr Arg Cys Trp Cys Ile Thr Val
 50 55 60
 Ala Ala Asp Asn Gly Val Arg Tyr Thr Ile Met Arg Ala Gly Pro Leu
 65 70 75 80
 Leu Gln Val Phe Asp Gly Gln Leu Ile Gly Ala Trp Glu Cys Lys Pro
 85 90 95
 Ala His Arg Ile Pro Ala Ser Thr Pro Ser Arg Ala Gly Ala Leu Lys
 100 105 110
 Leu Leu Gln Arg Leu Gln Lys Phe Asp Asp Ala Val Ala Val Leu Ser
 115 120 125
 Ser Tyr Thr Lys Arg Ala His Asp Leu Ala Thr Gln Met Ala Arg Asp
 130 135 140
 Asp Leu Gly Leu Gln His Arg Leu Val Tyr Pro Ser His Ser Asn Lys
 145 150 155 160
 Arg Tyr Tyr Ala Pro Arg His Gln Phe Tyr Leu Lys Gln Ile Gly Ala
 165 170 175
 Val Leu Arg Thr Phe Arg Gln Val Leu Asp Gln Asp Leu Leu Phe Ala
 180 185 190
 Ile Arg Ser Val Arg Cys Leu Ser Pro Gln Leu Tyr Asn Trp Leu Ala

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | 195 | | | | | 200 | | | | 205 | | | | | | |
| Gln | Gly | Asp | Gln | Val | Arg | Arg | Leu | Gln | Met | Leu | Lys | Ala | Gln | Pro | Val | | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | |
| Leu | Thr | Pro | Leu | Leu | Val | Asp | Cys | Glu | Glu | Gly | Val | Trp | Pro | His | Thr | | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | | |
| Thr | Thr | Asn | Asp | Asn | Gly | Glu | Ser | Ile | Arg | His | Tyr | Leu | Pro | Cys | Pro | | |
| | | | 245 | | | | | | 250 | | | | | 255 | | | |
| Phe | Pro | Gln | Leu | Asp | Ser | Glu | Arg | Pro | Gln | Ala | Ala | Ala | Met | Pro | Cys | | |
| | | | 260 | | | | | 265 | | | | | 270 | | | | |
| Asp | Leu | Tyr | Leu | Asp | Met | Gly | Arg | Ile | Leu | Gly | Gln | Val | Ala | Asp | Glu | | |
| | 275 | | | | | 280 | | | | | | 285 | | | | | |
| Gly | Ile | Ser | Val | Ile | Asn | Phe | Phe | Ala | Trp | Leu | Phe | Gln | Ala | Pro | Arg | | |
| | 290 | | | | 295 | | | | | | 300 | | | | | | |
| Ala | Ser | Ile | Arg | Phe | Leu | Ser | His | Val | Ser | Pro | Gly | Arg | Ala | Gly | Gly | | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | | |
| Ala | Leu | Phe | His | Arg | Lys | Arg | Glu | Gly | Arg | His | Ser | Gly | Trp | His | Ala | | |
| | | | | 325 | | | | | 330 | | | | | 335 | | | |
| Leu | Leu | Leu | Ala | Ala | Ser | Leu | Gly | Asn | Arg | Arg | Pro | Ile | Thr | Arg | Ala | | |
| | | | 340 | | | | 345 | | | | | | 350 | | | | |
| Gln | Trp | Thr | Ala | Phe | Tyr | Ala | Ala | Tyr | Asn | Ala | Ile | Pro | Trp | Gln | Val | | |
| | 355 | | | | | 360 | | | | | | 365 | | | | | |
| His | Asn | Ala | Lys | Pro | Asp | Tyr | Asn | Arg | Leu | Phe | Asn | Gly | Cys | Pro | Ser | | |
| | 370 | | | | 375 | | | | | | 380 | | | | | | |
| Asp | Trp | Gln | Asp | Pro | Ala | Trp | Leu | Ala | Ile | Thr | Ala | Arg | Leu | Arg | Asp | | |
| 385 | | | | 390 | | | | | | 395 | | | | 400 | | | |
| Ile | Lys | Glu | Phe | Tyr | Thr | Ala | Leu | Asp | Gln | Gly | Asn | Ser | Gln | Val | Val | | |
| | | | 405 | | | | | 410 | | | | | 415 | | | | |
| Arg | Gln | Ala | Arg | Ser | Ala | Leu | Lys | Ala | Tyr | Leu | Gly | His | Cys | Thr | Tyr | | |
| | | | 420 | | | | 425 | | | | | | 430 | | | | |
| Arg | Gln | Ala | Gly | Asn | Leu | Val | Asp | Asp | Tyr | His | Gln | Val | Gln | Arg | Glu | | |
| | 435 | | | | | 440 | | | | | 445 | | | | | | |
| Leu | Arg | Ala | Ala | Val | Gln | Ser | Ser | Leu | Pro | Asp | Leu | Val | Asp | Thr | Asp | | |
| | 450 | | | | 455 | | | | | | 460 | | | | | | |
| Glu | Tyr | Thr | Thr | Trp | Glu | Gly | Met | Leu | Ser | Val | Gly | Leu | Ile | Asp | Cys | | |
| 465 | | | | 470 | | | | | 475 | | | | | 480 | | | |
| Pro | Asn | Gly | Leu | Gln | Ile | Val | Glu | Leu | Arg | Cys | Pro | Ala | Asp | Leu | Tyr | | |
| | | | 485 | | | | 490 | | | | | | 495 | | | | |
| Ala | Glu | His | Ile | Ala | Leu | Ala | His | Cys | Ile | Asp | Ser | Tyr | Asp | Gln | Ala | | |
| | | | 500 | | | | 505 | | | | | | 510 | | | | |
| Ala | Tyr | Arg | Gly | Asp | Cys | Arg | Leu | Leu | Ser | Val | Arg | Glu | Ala | Gly | Arg | | |
| | 515 | | | | | 520 | | | | | 525 | | | | | | |
| Pro | Leu | Ala | Ser | Ala | Glu | Leu | Glu | Leu | Arg | Arg | Glu | His | Gly | Glu | Pro | | |
| | 530 | | | | 535 | | | | | | 540 | | | | | | |
| Ile | Gly | Arg | Pro | Trp | Ser | Pro | Lys | His | Leu | Ser | Thr | Val | Gln | Leu | Arg | | |
| 545 | | | | 550 | | | | | 555 | | | | | 560 | | | |
| Glu | Phe | Asp | Asn | Ala | Pro | Val | Pro | Thr | Asp | Ser | Pro | Ala | Gly | Gln | Ala | | |
| | | | 565 | | | | 570 | | | | | | 575 | | | | |
| Tyr | Arg | Trp | Phe | Met | Glu | Arg | Ile | Arg | Ser | Gly | Ala | Ile | Ala | Thr | Asn | | |
| | | | 580 | | | 585 | | | | | | 590 | | | | | |
| Leu | Asn | Trp | Pro | Asp | Met | Thr | Val | His | Met | Thr | Arg | Phe | Ala | Asn | Gly | | |
| | 595 | | | | | 600 | | | | | 605 | | | | | | |
| Arg | Trp | Lys | Ala | Gly | Leu | Ala | Glu | Ala | Thr | Ala | Lys | Trp | Leu | Leu | Thr | | |
| | 610 | | | | 615 | | | | | | 620 | | | | | | |
| Gln | Leu | Glu | Asp | Arg | | | | | | | | | | | | | |
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<210> 192

<211> 156

<212> PRT
 <213> Pseudomonas aeruginosa

<400> 192

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| Met | Arg | Lys | Glu | Asn | Ile | Ser | Ala | Glu | Ile | Thr | Glu | Arg | Ala | Phe | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Phe | Tyr | Trp | Phe | Ser | Arg | Phe | Glu | Phe | Ser | Leu | Lys | Glu | Asn | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Tyr | Leu | Lys | Asn | Tyr | Lys | Pro | Gly | Ala | Arg | Ala | Glu | Pro | Gly | Trp | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asn | Phe | Val | Gln | Asn | His | Ser | Asp | Lys | Tyr | Ser | Leu | Ser | Gln | Ser | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Thr | Ala | Leu | Ile | Glu | Gln | Ser | Pro | Glu | Gln | Gln | Ile | Val | Leu | Pro | Gly |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Arg | Glu | Leu | Gly | Trp | Arg | Pro | Val | Lys | Leu | Asp | Glu | Asp | Lys | Ser | Asp |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Leu | Ala | Arg | Val | Ala | Arg | Leu | Leu | Lys | Thr | Val | Arg | Asn | Asn | Leu | Phe |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| His | Gly | Gly | Lys | His | Gly | Gly | Ala | Asn | Trp | Asp | Asn | Pro | Ala | Arg | Thr |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ile | His | Leu | Ile | Leu | Leu | Ser | Lys | Ala | Ile | Leu | Asp | Glu | Phe | Ala | Ala |
| | 130 | | | | | 135 | | | | | 140 | | | | |
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<210> 193
 <211> 641
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 193

| | | | | | | | | | | | | | | | |
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| Met | His | Ile | Val | Ile | Ile | Glu | Ala | Pro | Gly | Lys | Leu | Lys | Lys | Leu | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Leu | Leu | Pro | Ser | Ile | Arg | Pro | Asp | Val | Thr | Trp | Gln | Val | Glu | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Thr | Ala | Gly | His | Ile | Arg | Asp | Leu | Pro | Val | His | Gly | Gln | Asp | Pro | Gln |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Met | Leu | Thr | Val | Gly | Val | Gly | Gln | Asp | Phe | Lys | Pro | His | Tyr | Gln | Ile |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Ser | Gly | Lys | Glu | Lys | Thr | Val | Ala | Arg | Leu | Lys | Glu | Leu | Arg | Gln |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Lys | Ala | Val | Glu | Ile | Tyr | Val | Ala | Ser | Asp | Pro | Asp | Arg | Glu | Gly | Glu |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ser | Ile | Gly | Trp | His | Ile | Leu | Gln | Ala | Ala | Gly | Ile | Lys | Asn | Tyr | Lys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Val | Ala | Phe | Lys | Glu | Ile | Thr | Lys | Ser | Cys | Ile | Thr | Ala | Glu | Leu |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Ser | Ser | Pro | Arg | Arg | Leu | Asp | Leu | Pro | Lys | Val | Ala | Ser | Gln | Glu | Cys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Arg | Arg | Val | Ile | Asp | Arg | Leu | Val | Gly | Tyr | Leu | Val | Thr | Pro | Glu | Leu |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
| Arg | Arg | Val | Met | Gly | Arg | Pro | Thr | Thr | Ala | Gly | Arg | Val | Gln | Ser | Val |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Ala | Val | Tyr | Leu | Val | Val | Leu | Arg | Glu | Arg | Glu | Ile | Arg | Ala | Phe | Thr |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Ala | Ile | Lys | His | Phe | Gly | Val | Glu | Leu | Thr | Phe | Val | Ser | Pro | Ser | Asp |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Gly | Arg | Thr | Trp | Thr | Ala | Glu | Trp | Asp | Pro | Val | Pro | Val | Phe | Ala | Ser |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 210 | | 215 | | 220 | | | | | | | | | | | |
| Glu | Glu | Phe | Pro | Tyr | Val | Gln | Asp | Arg | Gln | Leu | Ala | Glu | Leu | Val | Gly |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Ile | Arg | Asn | Val | Ile | Val | Glu | Thr | Cys | Ile | Asp | Ser | Glu | Glu | Thr |
| | | | 245 | | | | | | 250 | | | | | | 255 |
| Asp | Ala | Pro | Pro | Ala | Pro | Phe | Ile | Ser | Ser | Ser | Leu | Gln | Met | Ala | Ala |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Gly | Asn | Ala | Leu | Lys | Trp | Ser | Pro | Asp | Lys | Thr | Met | Lys | Val | Ala | Gln |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Arg | Leu | Tyr | Glu | Gln | Gly | Leu | Ile | Thr | Tyr | His | Arg | Thr | Asp | Asn | Pro |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Asn | Ile | Ser | Lys | Asp | Ser | Met | Pro | Asp | Ile | Arg | Ala | Val | Ala | Lys | Ala |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Gly | Leu | Lys | Cys | Val | Glu | Gln | Gln | Arg | Met | Phe | Lys | Ala | Asp | Gln |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Asp | Ala | Gln | Glu | Gly | His | Pro | Ala | Ile | Thr | Pro | Thr | Asp | Trp | Met | Ala |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Ala | Ala | Ala | Gly | Glu | Thr | Ala | Asp | Glu | Gln | Ala | Leu | Tyr | Gln | Leu | Ile |
| | 355 | | | | | | 360 | | | | | 365 | | | |
| Arg | Val | Arg | Ala | Leu | Ala | Ser | Gln | Ile | Glu | Ala | Ala | Val | Tyr | Ala | Val |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Arg | Thr | Ile | Thr | Leu | Leu | Gly | Val | Gly | Pro | Asp | Lys | Lys | Pro | Leu | Arg |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Phe | Gly | Ala | Lys | Gly | Lys | Leu | Leu | Asn | Val | Pro | Gly | Trp | Arg | Lys | Leu |
| | | | 405 | | | | | | 410 | | | | | 415 | |
| Leu | Gln | Gly | Asp | Asp | Ala | Glu | Glu | Gln | Lys | Asn | Glu | Thr | Pro | Ser | Asn |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Pro | Ile | Pro | Ile | Pro | Ala | Leu | Glu | Pro | Arg | Gln | Ile | Leu | Lys | Val | Tyr |
| | 435 | | | | | | 440 | | | | | 445 | | | |
| Ser | Gly | Glu | Val | Leu | Glu | Lys | Lys | Thr | Thr | Pro | Pro | Lys | Arg | Phe | Thr |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Asp | Ala | Ser | Leu | Val | Gly | Glu | Met | Lys | Arg | Arg | Gly | Ile | Gly | Arg | Pro |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Ser | Ser | Tyr | Ala | Ser | Ile | Val | Lys | Asn | Ile | Ile | Asp | Lys | Gly | Gln | Val |
| | | | 485 | | | | | | 490 | | | | | 495 | |
| Gln | Met | Lys | Gly | Arg | Ser | Leu | Ile | Pro | Gly | Glu | Leu | Gly | Glu | Ala | Thr |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ile | Ala | Leu | Leu | Glu | His | Asn | Phe | Ser | Phe | Leu | Ser | Leu | Asp | Phe | Thr |
| | 515 | | | | | | 520 | | | | | 525 | | | |
| Arg | Asn | Leu | Glu | Val | Ala | Leu | Asp | Arg | Ile | Ala | Asn | Ser | Glu | Asp | Thr |
| | 530 | | | | | 535 | | | | | | 540 | | | |
| Tyr | Met | Asn | Val | Val | Gln | Gln | Phe | Tyr | Gln | Leu | Leu | Gln | Thr | Glu | Leu |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Gln | Thr | Leu | Arg | Ala | Leu | Pro | Ser | Ala | Gln | Asp | Glu | Pro | Arg | Ala | Ser |
| | | | 565 | | | | | | 570 | | | | | 575 | |
| Ser | Thr | Ala | Ser | Ile | Ser | Ser | Ala | Pro | Thr | Ser | Asp | Phe | Leu | Cys | Gly |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Lys | Cys | Gly | Leu | Pro | Leu | Val | His | Arg | Lys | Lys | Ala | Gly | Lys | Gly | Gly |
| | 595 | | | | | | 600 | | | | | 605 | | | |
| Phe | Asp | Phe | Trp | Gly | Cys | Ser | Gly | Tyr | Arg | Thr | Thr | Gly | Cys | Lys | Val |
| | 610 | | | | | 615 | | | | | 620 | | | | |
| Ser | Tyr | Pro | Thr | Lys | Ser | Gly | Arg | Pro | Asp | Phe | Asp | Asn | Pro | Arg | Gly |
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| Leu | | | | | | | | | | | | | | | |

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<211> 77

<212> PRT
 <213> Pseudomonas aeruginosa

<400> 194
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 50 55 60
 Leu Val Lys Ala Gly Gly Val Thr Thr Cys Trp Cys Gly
 65 70 75

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 <211> 81
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 195
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 Asn Asp Pro His Arg Thr Val Arg Ala Ile Gly Ala Glu Ala Ala Arg
 35 40 45
 Lys Gly Leu Arg Val Phe Asp Cys Pro Tyr Ser His Pro Ala Met Arg
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 Ala Ser Trp Leu Lys Gly Phe Ala Gln Glu Gln Gln Gln Gln Leu Asp
 65 70 75 80
 Phe

<210> 196
 <211> 156
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 196
 Met Ala Thr Pro Val Phe Trp Glu Ala Asn Ile Gly Ser Ala Pro Glu
 1 5 10 15
 His Arg Ser Phe Pro Asn Gly Asn Asn Pro Pro Arg Gln Leu Leu Arg
 20 25 30
 Leu Asn Val Met Phe Asp Asn Ser Ile Pro Asp Gly Gln Gly Gly Tyr
 35 40 45
 Lys Asp Arg Gly Gly Phe Trp Cys Ser Val Glu Trp Trp His Gln Asp
 50 55 60
 Ala Gln Arg Phe Ala Glu Leu Phe Thr Lys Gly Met Arg Val Lys Val
 65 70 75 80
 Glu Gly Arg Ala Ile Met Asp Arg Trp Pro Asp Lys Glu Ser Gly Glu
 85 90 95
 Glu Val Gln Ala Leu Lys Val Glu Ala Ser Arg Ile Ser Ile Leu Pro
 100 105 110
 His Arg Leu Ala Glu Val Thr Leu Leu Pro Thr Gln His Gln Gln Ser
 115 120 125
 Arg Asn Val Pro Gln Gln Pro Ala Gln Gln Asp Ala Gln Ser Gln Gln

| | | |
|---|-----|-----|
| 130 | 135 | 140 |
| Asp Tyr Asp Ser Ala Phe Asp Asp Asp Ile Pro Met | | |
| 145 | 150 | 155 |

<210> 197
 <211> 177
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 197
 Met Arg Gln Leu Asp Lys Asp Gln Gln Gly Ala Leu Glu Gln Ser Ala
 1 5 10 15
 Phe Arg Pro Leu Gln Gln Thr Ala Phe Gln Ala Leu Gln His Ser Ala
 20 25 30
 Ser Leu Lys Gly Leu Leu Lys Pro Phe Lys Gly Asn Arg Glu Leu Ala
 35 40 45
 Gln Leu Ala Glu Gln Cys Glu Ala Met Glu Gln Gly Leu Leu Glu Leu
 50 55 60
 Ala Gln Gly Leu Leu Ala Gln Val Arg Arg Pro Pro Phe Thr Leu Leu
 65 70 75 80
 Pro Thr Arg Leu Ile Glu Gln Arg Thr Ser Ala Arg Thr Thr Phe Leu
 85 90 95
 Arg Trp Gln His Ile Ala Ser Arg Arg Met Gly Val Gly Val Trp Thr
 100 105 110
 Glu Met Leu Arg Gln Asp Lys Thr Pro Glu Tyr Leu Leu Gln Asp Leu
 115 120 125
 Tyr Glu Met Glu Leu Gln Arg Ile Thr Leu Asn Met Gln Ile Ser Leu
 130 135 140
 Ile His Ser Ile Gly Lys Gln Ala Ala Glu Cys Ala Glu Lys Met Gly
 145 150 155 160
 Gln Ala Glu Ala Glu Phe Met Gly Arg Leu Gln Gln Ser Thr Asn His
 165 170 175
 His

<210> 198
 <211> 242
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 198
 Met Ala Glu Thr His Arg Leu Gln Ile Gly Ser Leu Arg Ser Asp Val
 1 5 10 15
 Ala Leu Thr Leu His Thr Tyr His Ala Ala Arg Ile Trp Thr Gly Arg
 20 25 30
 Gln Lys Ser Asp Ala Lys His Ser Ile Leu Gly Leu Ser Gly Phe Cys
 35 40 45
 Ala Tyr Val Asn Arg Met His Arg Gly Ala Ala Gln Asp Asp Pro Tyr
 50 55 60
 Ser Asp Trp Trp Leu Val Gln Ile Glu Glu Lys Val Glu Ser Cys Gln
 65 70 75 80
 Ala Ala Leu Glu Ala Ile Asp Gln Arg Leu Asp Asp Val Met Ala Lys
 85 90 95
 Leu Pro Ala Thr Leu Asp Ile Ser Glu Asn Leu Ser Val Thr Pro Val
 100 105 110
 Lys Val Pro Leu Phe Ile Ser Asn Pro Leu Gly Phe Lys Ala Val Tyr
 115 120 125

Leu Leu Thr Asn Tyr Asp Glu Leu Ala Arg Arg Ile Leu Leu Ala Gln
 130 135 140
 His Val Gly Leu Val Gly Arg Arg Asp Met Glu Val Trp Leu Asp Glu
 145 150 155 160
 Gly Ala Ser Val Leu Arg Ser Leu Phe Gly Leu Ala Gln Ser Tyr Gln
 165 170 175
 Phe Ser Gly Ala Thr Arg Asp Asp Phe Ala Ala Asn Asn Ala Arg Ala
 180 185 190
 Glu Ala Ala Arg Lys Met Tyr Glu Lys Phe Gly Glu Ile Pro Gln Asp
 195 200 205
 Ile Leu Glu Gly Thr Arg Arg Ser Asn Phe Ala Pro Pro Ile Thr Arg
 210 215 220
 Gly Arg Ser Asp Gly Asp Ala Asp Asp Ala Asp Arg Val Glu Leu
 225 230 235 240
 Glu Asp

<210> 199
 <211> 79
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 199
 Met Phe Leu Ser Met Ala Pro Phe Phe Leu Val Val Leu Val Leu Ser
 1 5 10 15
 Ala Leu Phe Thr Asp Ala Trp Asn Asp Arg Glu Leu Arg Leu Leu Leu
 20 25 30
 Met Leu Ile Val Phe Gly Tyr Ser Val Thr Val Leu Thr Ile Thr Val
 35 40 45
 Glu Met Tyr Arg Phe Glu Met Ala Glu Lys Ala Met Trp Gly Ala Leu
 50 55 60
 Cys Asn Lys Ala Asn Tyr Met Asn Cys Gln Pro Asp Tyr Gln Arg
 65 70 75

<210> 200
 <211> 91
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 200
 Met Arg Lys Ser Arg Ser Gly Val Val Phe Phe Gly Asp Ala Ala Arg
 1 5 10 15
 Ile Thr Leu Pro Gly Pro Asp Leu Arg Ala Ala Gly Glu Leu Gly Asp
 20 25 30
 Ser Thr Gly Ile Thr Pro Pro Gly Ala Asp Leu Arg Ala Ala Gly Glu
 35 40 45
 Leu Gly Asp Ser Thr Gly Ile Thr Leu Pro Gly Ile His Phe Gly Ile
 50 55 60
 Gly Gly Lys Met Gly Val Ser Gly Arg Asn Thr Ser Pro Lys Arg Gly
 65 70 75 80
 Ile Thr Thr His Glu Glu Leu Lys Gln Cys Ser
 85 90

<210> 201
 <211> 441
 <212> PRT

<213> Pseudomonas aeruginosa

<400> 201

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Met | Arg | Leu | Ser | Arg | Phe | Pro | Ile | Ser | Thr | Leu | Leu | Asp | Ser | Ala | Ser | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Gly | His | Leu | Glu | Ala | His | Leu | Tyr | Lys | Lys | Arg | Leu | Ala | Ala | Glu | Ser | |
| | | 20 | | | | | | 25 | | | | | 30 | | | |
| Gly | Glu | Pro | Leu | Ala | Gln | Gln | Tyr | Ser | Gly | Ile | Ile | Phe | Ser | Gly | Asn | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Pro | His | Glu | Thr | Val | Pro | Arg | Arg | Leu | Leu | Leu | Asp | Lys | Arg | Leu | Thr | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Pro | Leu | Glu | Arg | Asn | Cys | Trp | Gln | Val | Phe | Arg | Leu | Leu | Ile | Asn | Asp | |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | | |
| Asp | Gly | Leu | Thr | Ala | Phe | Pro | Thr | Tyr | Glu | Gln | Leu | Arg | Pro | Tyr | Leu | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Gly | Met | Gln | Pro | Gly | Lys | Ile | Ala | Ser | Arg | Glu | Thr | Ile | Ala | Lys | Ala | |
| | | 100 | | | | | | 105 | | | | | 110 | | | |
| Leu | Thr | Val | Leu | Arg | Leu | Thr | Arg | Trp | Leu | Ser | Leu | Gly | Arg | Arg | Leu | |
| | 115 | | | | | 120 | | | | | | 125 | | | | |
| Arg | Asn | Asp | Leu | Asn | Gly | Gln | Val | Gln | Gly | Asn | Val | Tyr | Ile | Leu | His | |
| | 130 | | | | 135 | | | | | | 140 | | | | | |
| Asp | Glu | Pro | Val | Ser | Pro | Ala | Glu | Ala | Leu | Glu | Leu | Asp | Thr | Asp | Tyr | |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | | |
| Met | Gln | Leu | Leu | Ser | Gln | Ser | Thr | Gly | His | Gly | Asn | Arg | Ala | Ile | Arg | |
| | | | 165 | | | | | 170 | | | | | | 175 | | |
| Glu | Ile | Gly | Gln | Ile | Ile | Trp | Arg | Glu | Phe | Arg | Asp | Asp | Pro | Asp | Val | |
| | 180 | | | | | 185 | | | | | | 190 | | | | |
| Gly | Arg | Arg | Leu | Pro | Thr | His | Leu | Glu | Lys | Leu | Glu | Gly | Arg | Leu | Asn | |
| | 195 | | | | 200 | | | | | | | 205 | | | | |
| His | Gln | Gln | Trp | Ala | Ile | Asp | Ser | Gln | Leu | Glu | Ala | Asp | Pro | Ala | Ala | |
| | 210 | | | | 215 | | | | | | 220 | | | | | |
| Glu | Phe | Gly | Ile | Arg | Thr | Leu | Ser | Asp | Leu | Pro | His | Ser | Thr | Pro | Ser | |
| 225 | | | | 230 | | | | | 235 | | | | | 240 | | |
| Ser | Asp | Ala | Glu | Leu | Ser | Glu | Ile | Ser | Gly | Lys | Gln | Cys | Ala | Leu | Pro | |
| | | 245 | | | | | | 250 | | | | | | 255 | | |
| Leu | Ser | Ser | Asp | Thr | Glu | Pro | Arg | Gln | Asn | Pro | Pro | Ser | Thr | Pro | Leu | |
| | | 260 | | | | | 265 | | | | | | 270 | | | |
| Val | Arg | Met | Pro | Asn | Ser | Tyr | Ser | Thr | Tyr | Thr | Tyr | Lys | Gln | Asp | Ser | |
| | 275 | | | | 280 | | | | | | | 285 | | | | |
| Val | Cys | Lys | Lys | Pro | Val | Gln | Pro | Arg | Ala | Arg | Glu | Glu | Ala | His | Pro | |
| | 290 | | | | 295 | | | | | | 300 | | | | | |
| Asn | Trp | Gln | Asp | Leu | Leu | His | Ala | Leu | Glu | Ala | Glu | Gln | Arg | Ile | Gln | |
| 305 | | | | 310 | | | | | 315 | | | | | 320 | | |
| Ala | Val | Ser | Ala | Leu | Arg | Arg | Val | Ser | Glu | Asp | Leu | Arg | Leu | Pro | Ile | |
| | | | 325 | | | | | 330 | | | | | | 335 | | |
| Ile | Glu | Gln | Trp | Gln | His | Arg | Cys | Ala | Gly | Gly | Thr | Val | Ser | Asn | Pro | |
| | 340 | | | | | 345 | | | | | | 350 | | | | |
| Phe | Gly | Tyr | Leu | Met | Thr | Leu | Ile | Gln | Arg | Ala | Val | Gln | Gly | Lys | Phe | |
| | 355 | | | | 360 | | | | | | | 365 | | | | |
| Asn | Ala | Ser | Trp | Ala | Pro | Glu | Pro | Ala | Glu | Arg | Thr | Ile | Pro | Ala | | |
| | 370 | | | | 375 | | | | | 380 | | | | | | |
| Thr | Glu | Arg | Pro | Ile | Arg | Ala | Pro | Ala | Pro | Ser | Ser | Pro | Ile | Ala | Pro | |
| 385 | | | | 390 | | | | | 395 | | | | | 400 | | |
| Thr | Gln | Pro | Gln | Val | Gln | Pro | Arg | Gly | Asp | Thr | Arg | Thr | Gly | Ser | Glu | |
| | | | 405 | | | | | 410 | | | | | 415 | | | |
| Val | Leu | Ser | Arg | Leu | Lys | Asp | Leu | Ile | Arg | Pro | Arg | His | Gly | Ser | Ser | |
| | | 420 | | | | | 425 | | | | | 430 | | | | |
| Val | Pro | Ser | Glu | Arg | Gly | Asp | Asp | Ser | | | | | | | | |
| | 435 | | | | | 440 | | | | | | | | | | |

<210> 202
 <211> 255
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 202
 Met Ser Lys Ser Thr Ile Asn Glu Ala Val Leu Thr Gln Val Leu Asn
 1 5 10 15
 His Leu Arg Asn Gly Gln Leu Arg Arg Cys Ala Glu Met Gly Leu Arg
 20 25 30
 Pro Glu Ile Leu Ala Gln Leu Gln Gln Pro Ala Val Met Ser Ile Leu
 35 40 45
 Thr Asn Thr Pro Val Ser Trp Val Asp Val Arg Val Asn Ile Asp Val
 50 55 60
 Met Glu Lys Ile Leu Ala Thr Ala Glu Arg Ser Ala Gln Glu Asp Leu
 65 70 75 80
 Gln Ile Glu Arg Ala Leu Lys Leu Gly Ala Thr Thr Thr Met Ile Gln
 85 90 95
 Ser Phe Phe Gly Leu Ser Pro Glu Asp Thr Ala Thr Lys Arg Leu Met
 100 105 110
 Leu Glu Ile His Pro Arg Arg Gly Arg Trp Arg Gln Leu Asp Glu Gln
 115 120 125
 Ile Glu Arg Gln Ile Trp Phe Arg Trp Glu His Leu Met Gln Glu Asn
 130 135 140
 Gln Val Arg Leu Glu Asp Ser Met Glu Leu Leu Asp Ile Ala Met Ile
 145 150 155 160
 Leu Thr Glu Glu Ile Asn Ala Gly Ile Glu Gln Asp Ser Pro Glu Phe
 165 170 175
 Ile Ser Leu Ala Ile Val Trp Ser Leu Ile Gln Ser Trp Leu Lys Asp
 180 185 190
 Gly Leu Tyr Pro Ser Gly Lys Ser Ser Gln Ser Gln Ala Gly Leu Gln
 195 200 205
 Lys Ser Gln Ser Thr Leu Tyr Leu Ala Ser Val Ser Ser His Leu Pro
 210 215 220
 His Ser Ala Pro Ser Ala Thr Thr Gln Val Asn Ala Glu Thr Glu Arg
 225 230 235 240
 Gln Gln Leu Leu Asn Leu Val Gln Ser Glu Gly Asp Thr Ala Pro
 245 250 255

<210> 203
 <211> 579
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 203
 Met Ser Met Ala Lys Ile Asn Pro Gln Asp Leu Lys Asp Arg Leu Leu
 1 5 10 15
 Ala Pro Gly Phe Thr Ala Pro Pro Lys Val Leu Glu Gln Leu Ser Asp
 20 25 30
 Pro Ile Ser Asp Thr Pro Met Arg Leu Thr Leu His Asp Val Leu Pro
 35 40 45
 Trp His Asp Asn Pro Arg Thr Thr Arg Asn Pro Lys Tyr Asp Glu Leu
 50 55 60
 Lys Glu Ser Ile Arg His Arg Gly Leu Asp Thr Pro Pro Pro Val Thr
 65 70 75 80
 Arg Arg Pro Gly Glu Asp Lys Tyr Arg Ile Arg Asn Gly Gly Asn Thr
 85 90 95

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Leu | Glu | Ile | Leu | Asn | Asp | Leu | Tyr | Lys | Glu | Thr | Gly | Asp | Glu | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Tyr | Phe | Ser | Phe | Asp | Cys | Leu | Phe | Lys | Pro | Trp | Asp | Lys | Gln | Arg | Gly |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Glu | Ile | Ile | Ala | Leu | Thr | Gly | His | Leu | Ala | Glu | Asn | Asp | Leu | Lys | Gly |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Leu | Lys | Phe | Ile | Glu | Arg | Ala | Val | Gly | Val | Gln | Lys | Ala | Lys | Phe |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Leu | Tyr | Glu | Gln | Glu | Asn | Gly | Gly | Glu | Ser | Ile | Ser | Gln | Arg | Glu | Leu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Arg | Arg | Leu | Lys | Ala | Asp | Gly | Tyr | Pro | Val | Ser | Gln | Ser | His | Ile |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ser | Lys | Met | Leu | Asp | Thr | Ile | Glu | Val | Leu | Ala | Pro | Ala | Ile | Pro | Val |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Met | Leu | Tyr | Ser | Gly | Leu | Gly | Lys | Pro | Gln | Ile | Glu | Lys | Leu | Leu | Ser |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Leu | Arg | Lys | Ser | Ala | Ser | Ser | Cys | Trp | Ala | Arg | Leu | Tyr | Ala | Gly | Glu |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Gly | Val | Asp | Phe | Glu | Met | Leu | Phe | Gln | Asp | Thr | Leu | Ala | Ile | Phe | Asp |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ser | Ser | Pro | Asp | Glu | Phe | Ile | Phe | Glu | Arg | Phe | Gln | Asp | Glu | Leu | Ile |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asp | Gln | Met | Lys | Arg | Pro | Leu | Gly | Leu | Arg | Tyr | Asp | Gln | Ile | Leu | Leu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Glu | Ile | Thr | Asn | Gly | Gln | Gln | Gln | Arg | Arg | Gly | Thr | Leu | Val | Asp | |
| | 290 | | | | | 295 | | | | 300 | | | | | |
| Leu | Pro | Thr | Pro | Ala | Ala | Pro | Pro | Gln | Leu | Pro | Pro | Ile | Gly | Gln | Glu |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Asn | Pro | Ala | Ala | Ser | Ser | Thr | Gly | Gln | Ala | Gln | Thr | Gln | Ser | Pro | Ala |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ala | Asp | Pro | Gln | Thr | Ser | Arg | Thr | Arg | Ser | Asn | Pro | Gly | Asn | Pro | Leu |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Pro | Pro | Pro | Ala | Pro | Pro | Pro | Pro | Val | Gln | Gln | Lys | Gln | Leu | Pro | Asp |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Glu | Glu | Arg | Ala | Ala | Val | Leu | Ala | Gly | His | Ile | Val | Ser | Pro | Val | Ser |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Thr | Lys | Ile | Gln | Gln | Thr | Arg | Gln | Arg | Leu | Ala | Gly | Leu | Glu | Gly | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| His | Leu | Pro | Val | Phe | Asp | Glu | Thr | Ala | Leu | Gln | Ala | Ile | Pro | Val | Gln |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Val | Gly | Gly | Leu | His | Pro | Ile | Thr | Asp | Leu | Trp | Tyr | Ile | Glu | Arg | Ser |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Ile | Asp | Thr | Pro | Glu | Ile | Leu | Arg | Gln | His | Ile | Ala | Asp | Leu | Ala | Glu |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Glu | Ile | Ala | Leu | His | Val | Gly | Ala | Pro | Gly | Glu | Ile | Val | Arg | Ile | Gln |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Gly | Gly | Val | Gly | Tyr | Thr | Tyr | Arg | Glu | Pro | Asn | Glu | Asp | His | Glu | Ile |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Thr | Asp | Ser | Ala | Leu | His | Leu | Met | Thr | Leu | Leu | Gln | Ala | Val | Ser | Gly |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Gln | Val | Gln | Val | Val | Leu | Asn | Thr | His | Asp | Gln | Gln | Thr | Cys | Arg | Asp |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ala | Leu | Gly | Glu | Phe | Gln | Phe | Ser | Ala | Gly | Leu | Ala | Gln | Leu | Leu | Leu |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Gly | Gln | Pro | Thr | Thr | Ser | Asp | Lys | Pro | Ser | Cys | Gln | Ala | Gly | Arg | Leu |
| | 530 | | | | | 535 | | | | | 540 | | | | |
| Asn | Asp | Glu | Ala | Leu | Val | Lys | Leu | Phe | Arg | Ile | Ile | Arg | Leu | Ala | Arg |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Arg | Leu | Val | Asp | Leu | Glu | Leu | Pro | Pro | Ala | Ala | Ser | Glu | Gln | Ala | Ala |

| | | | |
|---|-----|-----|-----|
| | 565 | 570 | 575 |
| Thr Asp Gln | | | |
| | | | |
| <210> 204 | | | |
| <211> 84 | | | |
| <212> PRT | | | |
| <213> Pseudomonas aeruginosa | | | |
| | | | |
| <400> 204 | | | |
| Met Thr Met Ala Arg Glu Thr Glu Asp Lys Phe Val Val Arg Met Pro | | | |
| 1 5 10 15 | | | |
| Leu Gly Leu Arg Asp Gln Leu Lys Gln Lys Ala Ala Asp Asn His Arg | | | |
| 20 25 30 | | | |
| Ser Ala Asn Ser Glu Ile Val Tyr Arg Leu Glu Arg Ser Asn Ala Leu | | | |
| 35 40 45 | | | |
| Glu Glu Glu Leu Ala Arg Ala Asn Arg Met Val Asp Glu Leu Phe Ala | | | |
| 50 55 60 | | | |
| Lys Asn Gln Arg Leu Gln Ala Glu Leu Ala Ala Ala Asn Thr Pro Gln | | | |
| 65 70 75 80 | | | |
| Val Ala Glu Ala | | | |
| | | | |
| <210> 205 | | | |
| <211> 338 | | | |
| <212> PRT | | | |
| <213> Pseudomonas aeruginosa | | | |
| | | | |
| <400> 205 | | | |
| Met Pro Ile Lys His Ala Ile Val His Leu Ile Glu Lys Lys Pro Asp | | | |
| 1 5 10 15 | | | |
| Gly Thr Pro Ala Val Leu His Ala Arg Asp Ala Glu Leu Gly Asp Ser | | | |
| 20 25 30 | | | |
| Gln Ala Ile Glu Asn Leu Leu Ala Asp Leu Asn Glu Ser Tyr Asn Ala | | | |
| 35 40 45 | | | |
| Lys Asn Lys Ala Trp Gly Phe Phe Gln Gly Glu Ser Gly Ala Tyr Pro | | | |
| 50 55 60 | | | |
| Phe Ser Gly Trp Leu Gly Glu Tyr Leu Glu Gly Asp Arg Asp Phe Val | | | |
| 65 70 75 80 | | | |
| Gly Phe Ser Arg Glu Ala Val Glu His Leu Gln Lys Leu Met Glu Glu | | | |
| 85 90 95 | | | |
| Ser Asn Leu Phe Thr Gly Gly His Val Leu Phe Ala His Tyr Gln Gln | | | |
| 100 105 110 | | | |
| Gly Met Thr Asp Tyr Leu Ala Ile Ala Leu Leu His His Ser Glu Gly | | | |
| 115 120 125 | | | |
| Val Ala Val Asn Glu Ser Leu Glu Val Thr Pro Ser Arg His Leu Asp | | | |
| 130 135 140 | | | |
| Leu Gly Gln Leu His Leu Ala Ala Arg Ile Asn Ile Ser Glu Trp Arg | | | |
| 145 150 155 160 | | | |
| Asn Asn Lys Gln Ser Lys Gln Tyr Ile Ser Phe Ile Lys Gly Lys Gly | | | |
| 165 170 175 | | | |
| Gly Arg Lys Val Ser Asp Tyr Phe Arg Asp Phe Ile Gly Cys Gln Glu | | | |
| 180 185 190 | | | |
| Gly Val Asp Ser Pro Ser Glu Thr Arg Thr Leu Leu Lys Ala Phe Ser | | | |
| 195 200 205 | | | |
| Asp Phe Val Glu Ser Glu Asp Met Ala Glu Glu Gln Ala Arg Glu Lys | | | |
| 210 215 220 | | | |

Thr Glu Thr Leu Val Asp Tyr Ala Thr Ser Gln Ala Arg Ile Gly Glu
 225 230 235 240
 Pro Met Thr Leu Asp Ala Leu Ser Glu Leu Met Asp Asp Gln Gln Pro
 245 250 255
 Arg Ala Phe Tyr Asp Tyr Ile Arg Asn Lys Asp Tyr Gly Leu Ser Pro
 260 265 270
 Glu Ile Pro Ala Asp Lys Arg Thr Leu Asn Gln Phe Arg Arg Phe Thr
 275 280 285
 Gly Arg Ala Glu Gly Leu Ser Ile Ser Phe Glu Ala His Leu Leu Gly
 290 295 300
 Ser Arg Ile Glu Tyr Asp Glu Glu Arg Asp Thr Leu Gln Ile Ser Ser
 305 310 315 320
 Leu Pro Thr Gln Leu Arg Asp Gln Leu Lys Arg Arg Lys Ala Gln Ile
 325 330 335
 Gly Glu

<210> 206
 <211> 77
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 206
 Met Arg Ser Phe Leu Arg Gly Ala Arg Glu Ser Val Arg Arg Leu Val
 1 5 10 15
 Ala Phe Ala Gln Ala Glu Gly Trp Ser Val Asp Arg Ser Ala Gly Gly
 20 25 30
 His Leu Lys Leu Ser Lys Ile Gly Cys Ala Ser Ile Phe Ile Ser Ser
 35 40 45
 Thr Pro Ser Asp Ala Arg Gly Glu Leu Asn Ala Arg Ala Leu Leu Arg
 50 55 60
 Arg Ala Asp Arg Gln Arg Ser Leu Asn Gln Glu Ser Phe
 65 70 75

<210> 207
 <211> 164
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 207
 Met Pro Asp Val Thr Ala Tyr Arg Pro Leu Glu His Phe Gln Lys Val
 1 5 10 15
 Glu Leu Met Leu Glu Leu Lys Leu Arg Glu Gly Pro Ser Trp Ile Cys
 20 25 30
 Leu Asn Cys Gly Tyr His Leu Asp Gly Ser Gly Ala Gln Pro Cys Pro
 35 40 45
 Asp Cys Gly Lys Ser Arg Tyr Trp Thr Ser Gly Trp Ser Val Gly Arg
 50 55 60
 Gly His Arg Phe Ser Ala Ala Arg Glu Glu Trp Glu Asn Arg Leu Arg
 65 70 75 80
 Thr Arg Ser Arg Ser Pro Val Ala Ser Thr Ala Pro Val Ala Thr Asp
 85 90 95
 Asp Val Cys Thr Gln Leu Arg Thr Glu Val Arg Met Leu Arg Ser Ala
 100 105 110
 His Asp Asp Leu Ala Cys Ser Arg Gln Ser Asp Arg Arg Ser Leu Gln
 115 120 125
 Ala Leu Val Lys Arg Leu Leu Asp Ala Ala Ala Thr Asp Ser Leu Pro

| | | | | |
|---|--|-----|--|-----|
| 130 | | 135 | | 140 |
| Arg Ser Leu Ala Glu Met Glu Thr Trp Leu Gln Leu Asn Ser Glu Glu | | | | |
| 145 | | 150 | | 155 |
| Thr Thr Asn Ala | | | | 160 |

<210> 208
 <211> 85
 <212> PRT
 <213> Pseudomonas aeruginosa

| | |
|---|----------|
| <400> 208 | |
| Met Lys Ala Ser Gln Thr Tyr Gln Cys Ile Val Lys Phe Asp Gly Ala | |
| 1 | 5 10 15 |
| Gly Phe Trp Thr Asn Thr Ile Gln Lys Gln Arg Ala Thr Cys Thr Trp | |
| | 20 25 30 |
| Ser Asp Lys Val Ala Ala Ser Arg Leu Ala Glu Arg Leu Phe Gly Glu | |
| | 35 40 45 |
| Asp Asn Ala Tyr Ile Thr Arg Met Pro Val Gln Ala Gly Asp His Glu | |
| | 50 55 60 |
| Lys Arg Ile Glu Ser Arg Trp Ala Leu Ser Cys Arg Asn Pro Lys Glu | |
| 65 | 70 75 80 |
| Val Ala Arg Asp Ala | |
| | 85 |

<210> 209
 <211> 175
 <212> PRT
 <213> Pseudomonas aeruginosa

| | |
|---|-------------|
| <400> 209 | |
| Met Asn Thr Glu Ala Arg Phe Pro Ser Ile His Ala Ser Ala Ala Phe | |
| 1 | 5 10 15 |
| Thr Asp Ser Ala Val Val His Ala Asn His Val Gly Val Asn Pro Ile | |
| | 20 25 30 |
| Glu Leu Asp Ala Leu Ser Gln Val Ile Ser Arg Leu Ser Arg Asp Glu | |
| | 35 40 45 |
| Ser Thr Val Ala Pro Ser Ser Met Glu Arg Glu Leu Arg Glu Leu Glu | |
| | 50 55 60 |
| Glu Leu Gly Tyr Ile Glu Ile Ser Thr Thr Gln Ala Gly Thr Leu Val | |
| 65 | 70 75 80 |
| Val Thr Thr Arg Ala Pro Gly Gln Leu Leu Ser Ala Tyr Phe Trp Ser | |
| | 85 90 95 |
| Val Trp Ile Pro Arg His Leu Phe Ser Cys Ser Leu Lys Val Ser Leu | |
| | 100 105 110 |
| Val Pro His Leu Cys Cys Gly Thr Gln Asp Ser Gln His Leu Thr Ala | |
| | 115 120 125 |
| Val Phe Arg Ile Ala Gly Ser Lys Asp Ala Ala Arg Glu Phe Leu His | |
| | 130 135 140 |
| Gln Leu Ala Asn Asn Tyr Pro Gly His Glu Pro Glu Leu Pro Glu Leu | |
| 145 | 150 155 160 |
| Val Ala Val Gln Val Gly Asp Ala Leu Ser Lys Glu Ala Glu Ser | |
| | 165 170 175 |

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<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 210

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Arg | Arg | Lys | Phe | Ser | Asn | Arg | Glu | Glu | Arg | Cys | Ile | Arg | Glu | Thr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Trp | Thr | Ala | Glu | Gln | Glu | Leu | Val | Leu | Leu | Arg | Leu | Tyr | Pro | Asp | Met |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Asn | Glu | Val | Leu | Ala | Ala | Arg | Leu | Asn | Lys | Thr | Leu | Gln | Gln | Ile |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Cys | Ser | Arg | Ala | Tyr | Arg | Leu | Gly | Leu | Lys | Lys | Ser | Pro | Glu | Phe | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Lys | Lys | Ile | Arg | Gln | Asp | Trp | Gly | Ser | Ala | Thr | Arg | Phe | Lys | Lys | Gly |
| | | | | 85 | | | | | 90 | | | | 95 | | |
| Asn | Thr | Pro | Trp | Asn | Cys | Gly | Met | Lys | Gly | Leu | Pro | Ala | Arg | Gly | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Pro | Glu | Thr | Gln | Phe | Lys | Lys | Gly | Gln | Lys | Pro | His | Thr | Trp | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Pro | Val | Gly | Ser | Thr | Arg | Val | Ser | Ala | Asp | Gly | Tyr | Leu | Gln | Arg | Lys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ile | Ser | Asp | Thr | Gly | Tyr | Pro | Pro | Arg | Asp | Trp | Lys | Gly | Ile | His | Ile |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Leu | Leu | Trp | Glu | Glu | His | Phe | Gly | Pro | Ile | Pro | Thr | Gly | His | Cys | Val |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Cys | Phe | Lys | Asp | Asn | Asn | Lys | Gln | Asn | Val | Val | Ile | Asp | Asn | Leu | Glu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Leu | Ile | Thr | Arg | Ala | Glu | Arg | Met | Arg | Arg | Asn | Ser | Ile | His | Arg | Tyr |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Pro | Pro | Glu | Leu | Lys | Ser | Ala | Ile | Arg | Val | Ile | Ser | Lys | Leu | Lys | Arg |
| | 210 | | | | | 215 | | | | | | 220 | | | |
| Thr | Ile | Gln | Glu | Val | Glu | His | Glu | Glu | Gln | Asp | | | | | |
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<211> 233

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 211

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Asn | Ala | Lys | Gly | Ala | Thr | Pro | Asn | Glu | Ala | Glu | Thr | Ala | Leu | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Ala | Ala | Ile | Leu | Lys | Arg | Gln | Phe | Asp | Leu | Ser | Asp | Ala | Glu | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ser | Ala | His | Thr | Val | Glu | Thr | Ala | Cys | Val | Pro | Thr | Arg | Thr | Arg | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Pro | Ala | Pro | Trp | Leu | His | Glu | Leu | Ala | Gly | Ile | Cys | Ala | Ser | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Phe | Gly | Cys | Asp | Tyr | Leu | Ala | Ala | Tyr | Ala | Met | Pro | Ala | Gly | Trp | Thr |
| | | | 85 | | | | | | 90 | | | | 95 | | |
| Phe | Lys | Phe | Met | Gly | Arg | Gly | Ile | Gly | Pro | Glu | Leu | Ala | Ala | His | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Tyr | Ser | Thr | Leu | His | His | Gln | Leu | Val | Ala | Ala | Arg | Ser | Ala | His | Val |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Gln | Gln | Lys | Arg | Cys | Lys | Leu | Ser | Thr | Lys | Arg | Arg | Arg | Ser | Lys |

| | | | | |
|---|---|-----|--|-----|
| 130 | | 135 | | 140 |
| Leu Phe Val Glu Gly Trp | Leu Leu Ala Val Arg Ser Leu Val Arg Glu | | | |
| 145 | | 150 | | 160 |
| Phe Ala Gly Arg Pro Asp | Glu Ser Thr Gln Ala Ala Ile Lys Ala Tyr | | | |
| | | 165 | | 175 |
| Leu Glu Leu His His Pro Ala Leu Lys Tyr Leu Glu Pro Ala Ala Leu | | | | |
| | | 180 | | 190 |
| Thr Lys Ala Leu Ala Tyr Asp | Gln Ala Ser Leu Gln Ala Gly Trp Glu | | | |
| | | 185 | | 205 |
| His Gly Lys Asn Thr Arg Leu His Arg Gly Val Ser Arg Arg Val Gln | | | | |
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| 210 | | 215 | | |
| Gly Ala Leu Glu Gln Gly Gly Ser Gln | | | | |
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 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 212

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| | 15 |
| 20 | 25 |
| Ala Ile Glu Cys Leu Asp Cys Gln Val His Ile Gly Pro Ser Tyr Cys | 30 |
| | 35 |
| 35 | 40 |
| Glu Pro Asp Pro Val Thr Ala Arg Tyr Ser Ala Gln Ile Asp Trp Asn | 45 |
| | 50 |
| 50 | 55 |
| Arg Arg Pro Ser Ala Lys Asn His Ala Asp Glu Arg Glu Gln Phe Leu | 60 |
| | 65 |
| 65 | 70 |
| Met Ala Asn Leu Leu Ala Ala Leu Glu Val Ala Leu Gly Asp Val Ala | 75 |
| | 80 |
| 85 | 90 |
| Ala Leu Ala Ile Val Asp Arg Val Arg Gln Ala Thr Asp Arg Ile Tyr | 95 |
| | 100 |
| 100 | 105 |
| Pro Thr Ser Asn Leu Ser Pro Val Pro Gln Ala Trp Leu Asp Val Gln | 110 |
| | 115 |
| 115 | 120 |
| Ala Glu Arg Arg Arg Gln Ile Thr Val Glu Gly Phe Asp Thr Ser Asn | 125 |
| | 130 |
| 130 | 135 |
| Asp Asp Ala Ser Ala Gly Leu Ile Ala Leu Ala Ala Gly Cys Tyr Ala | 140 |
| | 145 |
| 145 | 150 |
| Leu His Ala Gly Gly Ile Gly Thr Asp Trp Pro Gly Gly Ile Arg Asn | 155 |
| | 160 |
| 165 | 170 |
| Gly Ser Ala Leu Phe Trp Pro Trp Asp Glu Glu Trp Trp Lys Pro Lys | 175 |
| | 180 |
| 180 | 185 |
| Ser Ala Arg Glu Asn Leu Val Arg Ala Gly Ala Leu Val Leu Ala Glu | 190 |
| | 195 |
| 195 | 200 |
| Ile Glu Arg Leu Asp Arg Ser Ala Thr Glu Gln Gly Ser Thr Ile Cys | 205 |
| | 210 |
| 210 | 215 |
| Lys Gly Gly Ala | 220 |
| 225 | |

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 <211> 165
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 213

| | | | | | | | | | | | | | | | |
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Gln | Phe | Asp | Ala | Tyr | Val | Gln | Gly | Tyr | Met | Ala | Lys | Ala | Gly | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Ala | Gly | Ala | Ser | Glu | Asn | Leu | Gln | Ile | Glu | Ala | Glu | Gly | Ala | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Met | Leu | Gln | Gly | Leu | Val | Ala | Pro | Val | Arg | Ala | Gln | Gln | Arg | Ala | Cys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Gln | Ser | Leu | Gln | Asn | Ala | Leu | Leu | Gln | Ile | Ala | His | Asp | Leu | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Leu | Gln | Thr | Lys | Ser | Gln | Leu | Ala | Ile | Ala | Ala | Asn | Ala | Ser | Ser | Ile |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Gln | Val | Ile | Gln | Arg | Asp | Met | Asn | Arg | Ala | Ile | Trp | Asn | Ile | Ala | Thr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Ile | Asp | His | Leu | Ala | Glu | Phe | Ala | Gln | Pro | Ser | Gln | Asp | Thr | Val |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Arg | Val | Ile | Glu | Arg | Leu | Met | Leu | Phe | Val | Gly | Ser | Ser | Ser | Ser | Thr |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Glu | Gly | Gln | Gln | Leu | Ala | Ala | Glu | Ala | Asn | Ala | Val | Leu | Gly | Met | Ser |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Val | Gly | Gly | Leu | Ala | | | | | | | | | | | |
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<210> 214

<211> 226

<212> PRT

<213> Pseudomonas aeruginosa

<400> 214

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Thr | Gly | Ala | Thr | Arg | Glu | Ile | Arg | Lys | Leu | Thr | Gly | Gly | Gly | Ile |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Leu | Phe | Gly | Lys | Leu | Gly | Cys | Tyr | Leu | Ser | Phe | Glu | Gln | Lys | Gln |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Leu | Gln | Asp | Ala | Ala | Arg | Leu | Leu | Asp | Ser | Val | Asn | Lys | Gln | Ile |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | His | Ala | Lys | Glu | Lys | Arg | Asp | Arg | Tyr | Glu | Lys | Lys | Ala | Lys | Lys |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 |
| Arg | Arg | Glu | Leu | Arg | Glu | Arg | Leu | Ala | Lys | Gln | Leu | Val | Ala | Ser | Asn |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Tyr | Pro | Leu | Pro | Gly | Asn | Thr | Leu | Glu | Asp | Arg | Leu | Glu | Ile | Leu | Gln |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ile | Ala | Leu | Ile | Tyr | Asn | Arg | Ala | Arg | Val | Phe | Asp | His | Leu | Tyr | Ser |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Thr | His | Gln | Leu | His | Ser | Lys | Leu | Lys | Arg | Trp | Leu | Glu | Arg | Pro | Lys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gln | Leu | Ile | Gly | Trp | Arg | Ser | Glu | Ala | Glu | Tyr | Phe | Ala | Ser | Gln | Val |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gly | Ser | Leu | Arg | Cys | Asp | Phe | Ile | Ser | His | Leu | Thr | Asn | Glu | Ile | Ala |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Tyr | Asp | Asp | Gly | Ser | Glu | Val | Glu | Glu | Arg | Leu | Arg | Val | Ile | Lys | Gln |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Lys | Val | Ala | Asp | Cys | Thr | Ala | Gln | Ile | Ala | Leu | Thr | Ser | Glu | Glu | Gln |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Glu | Thr | Leu | Arg | Leu | Trp | Thr | Asp | Ala | Leu | Gln | Ser | Ala | Pro | Glu | Gly |
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| Leu | Ile | | | | | | | | | | | | | | |

225

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<211> 309
<212> PRT
<213> *Pseudomonas aeruginosa*

<400> 215
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35 40 45
Ser Tyr Tyr Glu Leu Pro Glu Val Ala Gln Gly Gly Ile Tyr Asp Leu
50 55 60
Leu Ala Ala Asn Ile Thr Asp Pro Ala Arg Ile Ile Ser Arg Thr Ile
65 70 75 80
Ile Pro Asn Leu Asp Val Val Ile Ser Asn Asp Gln Asn Asn Gln Leu
85 90 95
Asn Asn Leu Leu Leu Gln Ala Pro Asp Gly Arg Leu Arg Leu Ala Asn
100 105 110
Leu Met Pro Ala Leu Lys Glu Gly Tyr Asp Leu Val Leu Ile Asp Thr
115 120 125
Gln Gly Ala Arg Ser Ala Leu Leu Glu Met Val Val Leu Ala Ser Asp
130 135 140
Leu Val Val Ser Pro Leu Gln Pro Asn Met Leu Thr Ala Arg Glu Phe
145 150 155 160
Asn Arg Gly Thr Met Gln Met Leu Asp Gly Leu Arg Pro Tyr Glu Arg
165 170 175
Leu Gly Met Arg Ile Pro Asn Val Gln Ile Val Ile Asn Cys Leu Asp
180 185 190
Gln Thr Asn Asp Ser Arg Ala Ile His Glu Asn Val Arg Ala Ile Phe
195 200 205
Asp Glu His Gln Asp Ile Ser Val Leu Glu Thr Thr Val Pro Asp Ala
210 215 220
Val Val Phe Arg Asn Ala Ala Ser Arg Gly Leu Pro Ala His Arg Leu
225 230 235 240
Glu Thr Arg Gln Pro Ser Asn Arg Thr Ser Ala Pro Ala Leu Glu Ile
245 250 255
Ile Arg Asn Leu Ala Ile Glu Val Phe Pro Glu Trp Thr Asp Arg Phe
260 265 270
Leu Ala Leu Thr Pro Gly Gly Gly Cys Ser Thr Gly Gln Gly Arg Ala
275 280 285
Leu Thr Trp Arg Arg Leu Leu Ser Pro Lys Pro Ala Thr Ser Thr Arg
290 295 300
Asn Leu Cys Trp Asn
305

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<212> PRT
<213> *Pseudomonas aeruginosa*

<400> 216
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| Arg | Glu | Ala | Ser | Ala | Lys | Ile | Tyr | Arg | Ala | Ala | Thr | Lys | Ala | Leu | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | His | Phe | Gly | Pro | Thr | Ala | Thr | Val | Gln | Glu | Val | Asp | His | Arg | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Val | Leu | Gly | Trp | Arg | Arg | Lys | Val | Leu | Glu | Gln | Gly | Leu | Ser | Lys | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Trp | Asn | Thr | Tyr | Ser | Asn | His | Leu | Arg | Thr | Ile | Trp | Gly | Tyr | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ile | Glu | His | Glu | Leu | Val | Thr | His | Ser | Gln | Val | Asn | Pro | Phe | Arg | Lys |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Thr | Thr | Val | Ile | Pro | Pro | Arg | Arg | Ala | Ser | Lys | Thr | Val | Ala | Ala | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Ile | Leu | Arg | Ala | Arg | Asn | Trp | Leu | Asn | Met | Gln | Val | Gly | Ala | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Arg | Cys | Thr | Gly | Asp | Arg | Ala | Arg | Ile | Thr | Pro | Ala | Trp | Phe | Trp | Leu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Cys | Thr | Phe | Glu | Val | Phe | Tyr | Phe | Thr | Gly | Ile | Arg | Leu | Asn | Ala | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Leu | Cys | Ile | Arg | Lys | Arg | Asp | Ile | Asp | Trp | Glu | Asn | Gln | Leu | Ile | Leu |
| | | | | 165 | | | | | 170 | | | | 175 | | |
| Ile | Arg | Gly | Glu | Thr | Glu | Lys | Thr | His | Lys | Glu | Phe | Val | Val | Pro | Ile |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Thr | Glu | Gly | Leu | Val | Pro | His | Leu | Ser | Arg | Leu | Leu | Gln | Glu | Ala | Asp |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Arg | Ala | Gly | Phe | Ala | Asp | Asp | Asp | Gln | Leu | Phe | Asn | Val | Asn | Arg | Phe |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ser | Pro | His | Tyr | Lys | Ser | Lys | Val | Met | Asn | Ser | Asp | Gln | Val | Glu | Ala |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Met | Tyr | Arg | Lys | Leu | Thr | Glu | Lys | Val | Gly | Val | Arg | Met | Thr | Pro | His |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Arg | Phe | Arg | His | Thr | Leu | Ala | Thr | Asp | Leu | Met | Lys | Ala | Pro | Glu | Arg |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asn | Ile | His | Leu | Thr | Lys | Cys | Leu | Leu | Asn | His | Ser | Asn | Ile | Gln | Thr |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Thr | Met | Ser | Tyr | Ile | Glu | Ala | Asp | Tyr | Asp | His | Met | Arg | Ala | Val | Leu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| His | Ala | Arg | Ser | Leu | Ala | Gln | Gly | Ala | Leu | Glu | Asn | Val | Arg | Lys | Val |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Asp | Tyr | Ser | Gly | Ser | Pro | Gln | Ala | Ser | Ala | Lys | Pro | Lys | Pro | Cys | Gly |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Gln | Pro | Leu | Ala | Arg | Met | Gly | Glu | Ala | Pro | Pro | Gln | Glu | Ala | Arg | Thr |
| | | 340 | | | | | | 345 | | | | | 350 | | |
| Glu | Pro | Ala | Glu | Pro | Arg | Glu | His | Thr | Pro | Gly | Thr | Gly | Ile | Gln | Gly |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Asp | Ala | Thr | Ala | Trp | Glu | Glu | Ala | Leu | Pro | Gln | Pro | Pro | Asp | Thr | Phe |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Glu | Gln | Ser | Val | Leu | Phe | Thr | Leu | Met | Ala | Gln | His | Leu | Ser | Asn | Arg |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Ala | Ala | Thr | Ala | Ser | Ala | Ala | Ser | Thr | Ala | Thr | Ser | Gly | Ser | Gly | Gly |
| | | | 405 | | | | | | 410 | | | | | 415 | |
| Trp | Gly | Ser | Thr | Ala | Arg | Ser | Ser | Leu | Ala | | | | | | |
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<211> 125

<212> PRT

<213> Pseudomonas aeruginosa

<400> 217

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Leu | Val | His | Thr | Val | Asp | Gly | Thr | Ala | Met | Leu | Val | Thr | Pro | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ile | Phe | Lys | Arg | Tyr | Val | Gln | Glu | His | Pro | Glu | Val | Glu | Lys | Leu | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Ala | Lys | Glu | Thr | Ala | Gly | Trp | Lys | Leu | Val | Gln | Arg | Ala | Phe | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Gln | Gly | Leu | His | Arg | Lys | Thr | Ser | Lys | Asn | Leu | Asn | Ile | Trp | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ile | Lys | Val | Ser | Gly | Pro | Arg | Lys | Thr | Lys | Glu | Leu | Lys | Ala | Tyr | Leu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Gln | Asp | Pro | Lys | Leu | Leu | Phe | Pro | Val | Gln | Pro | Leu | Asp | Asn | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
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<211> 280

<212> PRT

<213> *Pseudomonas aeruginosa*

<400> 218

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Asp | Val | Ala | Arg | Ser | Cys | Tyr | Tyr | Val | His | Arg | Leu | Arg | Arg | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Val | Asp | Ala | Arg | Arg | Val | Ala | Leu | Arg | Ser | Gln | Val | Asn | Gln | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Ser | Gln | Ser | Arg | Gly | Ser | Ala | Gly | Ser | Arg | Ser | Ile | Leu | Gly | Met |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Arg | Glu | Glu | Gly | Val | Thr | Ile | Gly | Arg | Phe | Arg | Val | Arg | Arg | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Met | Arg | Glu | Leu | Gly | Leu | Val | Ser | Lys | Gln | Pro | Gly | Ser | His | Ala | Tyr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Gln | Ala | Thr | Val | Glu | Arg | Pro | Asp | Ile | Pro | Asn | Arg | Leu | Asn | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Glu | Phe | Ala | Thr | Glu | His | Pro | Ile | Gln | Val | Trp | Cys | Gly | Asp | Ile | Thr |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Tyr | Val | Trp | Ala | Gln | Gly | Arg | Trp | His | Tyr | Leu | Ala | Ala | Val | Leu | Asp |
| | 130 | | | | | 135 | | | | | | 140 | | | |
| Leu | Leu | Ile | Gly | Trp | Ala | Phe | Ser | Ala | Lys | Pro | Asp | Ala | Glu | Leu | Val |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ile | Lys | Ala | Leu | Asp | Met | Ala | Tyr | Glu | Gln | Arg | Gly | Arg | Pro | Gln | Gln |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Val | Leu | Phe | His | Ser | Asp | Gln | Gly | Ser | Gln | Tyr | Ala | Ser | Arg | Leu | Phe |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Arg | Gln | Arg | Leu | Trp | Arg | Tyr | Arg | Met | Gln | Gln | Ser | Met | Ser | Arg | Arg |
| | | 195 | | | | | 200 | | | | | | 205 | | |
| Gly | Asn | Cys | Trp | Asp | Asn | Ser | Pro | Met | Glu | Arg | Leu | Phe | Arg | Ser | Leu |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Lys | Ser | Glu | Trp | Val | Pro | Ser | Thr | Gly | Tyr | Leu | Thr | Ala | Gln | Glu | Ala |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Gln | Arg | Asp | Ile | Ser | His | Tyr | Leu | Met | His | Arg | Tyr | Asn | Trp | Ile | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Pro | His | Gln | Phe | Asn | Asp | Gly | Leu | Pro | Pro | Ala | Val | Ala | Glu | Glu | Lys |
| | | | 260 | | | | | 265 | | | | | | 270 | |

Leu Asn Pro Leu Ser Gly Met Gly
 275 280

<210> 219
 <211> 102
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 219
 Met Ser Lys Gln Arg Arg Thr Phe Ser Ala Glu Phe Lys Arg Glu Ala
 1 5 10 15
 Ala Ala Leu Val Leu Asp Gln Gly Tyr Ser His Ile Asp Ala Cys Arg
 20 25 30
 Ser Leu Gly Val Val Asp Ser Ala Leu Arg Arg Trp Val Lys Gln Leu
 35 40 45
 Glu Ala Glu Arg Gln Gly Val Thr Pro Lys Ser Lys Ala Leu Thr Pro
 50 55 60
 Glu Gln Gln Lys Ile Gln Glu Leu Glu Ala Arg Ile Asn Arg Leu Glu
 65 70 75 80
 Arg Glu Lys Ala Ile Leu Lys Lys Ala Thr Ala Leu Leu Met Ser Asp
 85 90 95
 Glu Leu Asp Arg Thr Arg
 100

<210> 220
 <211> 94
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 220
 Met Leu Tyr Phe Ser Cys Ser Met Lys Met Gly Gly Trp Val Gly Tyr
 1 5 10 15
 Arg Tyr Phe Ser Leu Phe Ser Leu Ile Ala Leu Ile Tyr Gly Cys Val
 20 25 30
 Gly Gly Gly Gly Gly Ser Asp Glu Ile Gly Gln His Cys Phe Glu Arg
 35 40 45
 Glu Gln Lys Leu Ser Gly Val Asn Asp Asn Glu Glu Gly Ser Val Arg
 50 55 60
 Leu Asn Arg Leu Asn Cys Asp Pro Ile Glu Gly Arg Val Leu Glu Ser
 65 70 75 80
 Glu Lys Leu Ile Arg Lys Pro Pro Asn Glu Leu Gly Ile His
 85 90

<210> 221
 <211> 207
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 221
 Met Lys Lys Ser Leu Val Met Ser Ala Val Leu Leu Val Ala Ser Asn
 1 5 10 15
 Phe Ala Cys Ala Asp Glu Gly Ser Asn Asp Gly Ser Glu Ile Cys Arg
 20 25 30
 Ala Gln Gly Gly Val Glu Ile Thr Ser Leu Gly Glu Val Ser Lys Gly
 35 40 45
 Val Asp Val Glu Asp Val Val Val Cys Ser Ile Leu Pro Ser Asn Met

| | | | | |
|---------------------|-------------------------|-------------------------|-----|----|
| 50 | | 55 | | 60 |
| Lys Ser Ser Gln Arg | Ala Pro Thr Leu Pro | Pro Leu Gln Arg Met Ile | | |
| 65 | 70 | 75 | 80 | |
| Ile Ser Ala Met Pro | Ser Pro Gly Thr Val Thr | Val Ser Ala Ser Gly | | |
| | 85 | 90 | 95 | |
| Asp Arg Lys Phe Thr | Thr Ser Cys Arg Ala | Asn Leu Tyr Ala Pro Arg | | |
| | 100 | 105 | 110 | |
| Tyr Ala Asn Phe Tyr | Pro Asp Gly Val Ser | Arg Gly Thr Ser Asp Leu | | |
| | 115 | 120 | 125 | |
| Arg Cys Val Gly Tyr | Asn Thr Pro Gly Asn | Ser Ser Gln Gly Cys Asn | | |
| | 130 | 135 | 140 | |
| Val Ser Trp Asp Gly | Pro Thr Asp Ile Gln | Leu Gly Val Glu Pro Tyr | | |
| 145 | 150 | 155 | 160 | |
| Gly Gly Ser Val Val | Val Asn Tyr Ser Cys | Thr Ala Phe Lys Thr Thr | | |
| | 165 | 170 | 175 | |
| Ile Pro Val Ile Met | Ser Tyr Ser Tyr Arg | Asp Gly Arg Ala Val Tyr | | |
| | 180 | 185 | 190 | |
| Gly Glu Val Gln Asn | Val Ser Gly Ile Ile | Asn Val Val Leu Asn | | |
| | 195 | 200 | 205 | |

<210> 222
 <211> 105
 <212> PRT
 <213> Pseudomonas aeruginosa

| |
|---|
| <400> 222 |
| Met Leu Ile Lys Ile Leu Arg Ile Ile Phe Leu Leu Pro Ile Val Gly |
| 1 5 10 15 |
| Leu Ala Gln Gln Ala Ala Ala Ser Pro Pro Ala Glu Ser His Ser Glu |
| 20 25 30 |
| Gln Ser Glu Ser Ser Cys Ile Asp Val Gln Val Asn Gly Ala Arg Ser |
| 35 40 45 |
| Leu Ser Tyr Asn Cys Met Ala Gln Gln Met Thr Pro Pro Lys Glu Asp |
| 50 55 60 |
| Pro Arg Arg Arg Asn Pro Thr Leu Asn Ser Thr Leu Ala Ser Glu Arg |
| 65 70 75 80 |
| Ala Thr Arg Leu Pro Pro Thr Gln Thr Gly Leu Phe Thr Ser Leu His |
| 85 90 95 |
| Gln Arg Ala Ile Ser Asn Ser Lys Asp |
| 100 105 |

<210> 223
 <211> 67
 <212> PRT
 <213> Pseudomonas aeruginosa

| |
|---|
| <400> 223 |
| Val Ser Ser Thr Lys Ser Lys Pro Ile Ala Arg Gly Arg Gly Gly Pro |
| 1 5 10 15 |
| Phe Gly Glu Val Met Lys Arg Cys Gly Leu Val Pro Val Arg Gly Arg |
| 20 25 30 |
| Asn Arg Gln Gln Thr Gly Ser Leu Ala Met Gly Gln Gln Glu Thr Ile |
| 35 40 45 |
| Ser Pro Ser Val Ser Arg Thr Ala Ala Cys Ser Val Arg Gly Asp Ser |
| 50 55 60 |
| Leu Met Pro |
| 65 |

<210> 224
 <211> 72
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 224
 Met Glu Arg Leu Leu Glu Ser Ile Tyr Ile Asn Ala Arg Pro Ala Met
 1 5 10 15
 Glu Leu Arg Leu Ser Leu Thr Ser Ser Gly Arg Lys Arg Met Val Lys
 20 25 30
 Ile Val Asp Gly Glu Glu Val Glu Val Leu Pro Gly Glu Val Gln Gly
 35 40 45
 Ile Leu Glu Ala Gln Lys Arg Asp Val Gly Ile Leu Ala Asp Phe Leu
 50 55 60
 Ala Lys Ser Leu Val Ala Arg Arg
 65 70

<210> 225
 <211> 149
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 225
 Met Glu Cys His Val Arg Pro Ala Thr Ser Arg Asp Ala Ala Ala Ile
 1 5 10 15
 Ser Cys Val Val Ile Ala Ala Leu Arg Glu Ser Asn Ser Gln Asp Tyr
 20 25 30
 Pro Pro Asp Val Ile Ala Gln Val Glu Gln Ser Phe Ser Pro Glu Ala
 35 40 45
 Ile Thr Thr Gln Leu Thr Lys Arg Arg Val Phe Val Ala Leu Leu Gly
 50 55 60
 Glu Asn Ile Ile Gly Thr Ala Gly Leu Asp Gly Asp Val Val Arg Ser
 65 70 75 80
 Val Phe Val Asp Pro Ala His Gln Lys Gly Gly Ile Gly Arg His Leu
 85 90 95
 Met Asp Val Ile His Thr Thr Ala Ala Ser Ala Gly Val Gly Ala Val
 100 105 110
 Arg Val Pro Ser Ser Ile Thr Ala Glu Arg Phe Tyr Thr Ala Leu Gly
 115 120 125
 Tyr Gln Lys Ile Arg Asp Glu Phe His Gly Ala Glu Arg Thr Ile Val
 130 135 140
 Met Glu Lys Arg Leu
 145

<210> 226
 <211> 366
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 226
 Leu Trp Leu Thr Cys Thr Pro Gln Gln Asp Val Gln Ala Ala Leu Ala
 1 5 10 15
 Thr Ala Ser Ile Leu Leu Gly Gln Phe His Gln Leu Gly Val Gln Leu
 20 25 30
 Gly Arg Tyr Thr Ser Leu Asp Pro Leu Glu Glu Val Glu Lys Asn Ala
 35 40 45

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Ala | Leu | Pro | Ser | Pro | Ala | Trp | Lys | Thr | Asp | Ser | Thr | Lys | Phe | Ser |
| 50 | | | | | | 55 | | | | | 60 | | | | |
| Val | Val | Leu | Lys | Ser | Gly | Gly | Arg | Ser | Ile | Asp | Lys | Gly | Ile | Pro | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ala | Gly | Leu | Leu | Ala | His | Val | Met | Val | Ala | Lys | Phe | Ala | Asp | His | Leu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Pro | Leu | Tyr | Arg | Gln | Glu | Lys | Ile | Phe | Gly | Arg | Ala | Gly | Leu | Ala | Ile |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Arg | Ser | Thr | Leu | Ala | Gln | Trp | Val | Gly | Gln | Thr | Gly | Val | Arg | Leu |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Gln | Pro | Leu | Val | Asp | Ala | Leu | Arg | Glu | Ala | Val | Leu | Asn | Gln | Gly | Val |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ile | His | Ala | Asp | Glu | Thr | Pro | Val | Gln | Met | Leu | Ala | Pro | Gly | Glu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Thr | His | Arg | Ala | Tyr | Val | Trp | Ala | Tyr | Ser | Thr | Thr | Pro | Phe | Ser |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Gly | Leu | Lys | Ala | Val | Val | Tyr | Asp | Phe | Ser | Pro | Ser | Arg | Ala | Gly | Glu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| His | Ala | Arg | Asn | Phe | Leu | Gly | Asp | Trp | Asn | Gly | Lys | Leu | Val | Cys | Asp |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Asp | Phe | Ala | Gly | Tyr | Lys | Ala | Gly | Phe | Glu | Gln | Gly | Ile | Thr | Glu | Ile |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Gly | Cys | Met | Ala | His | Ala | Arg | Arg | Lys | Phe | Phe | Asp | Leu | His | Val | Ala |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Asn | Lys | Ser | Gln | Leu | Ala | Glu | Gln | Ala | Leu | His | Ser | Ile | Ser | Gly | Leu |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Tyr | Glu | Val | Glu | Arg | Gln | Ala | Arg | Asp | Met | Ser | Asp | Glu | Glu | Arg | Trp |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Arg | Ile | Arg | Gln | Glu | Leu | Ala | Val | Pro | Ile | Leu | Lys | Lys | Leu | His | Asp |
| | | 275 | | | | | 280 | | | | | | 285 | | |
| Trp | Met | Leu | Ala | Gln | Arg | Asp | Leu | Val | Pro | Asn | Gly | Ser | Ala | Thr | Ala |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Ala | Leu | Asp | Tyr | Ser | Leu | Lys | Arg | Trp | Val | Ala | Leu | Thr | Arg | Tyr |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Asp | Asp | Gly | Ala | Val | Pro | Ile | Asp | Asn | Asn | Gln | Val | Glu | Asn | Gln |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ile | Arg | Pro | Trp | Ala | Leu | Gly | Arg | Ser | Asn | Trp | Leu | Phe | Ala | Gly | Ser |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Leu | Arg | Ser | Gly | Lys | Arg | Ala | Ala | Ile | Met | Ser | Leu | Ile | | | |
| | | 355 | | | | | 360 | | | | | 365 | | | |

<210> 227
 <211> 189
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 227
 Met Val Arg Arg Arg Val Ala Val Ala Arg Glu Cys Leu Ser Leu
 1 5 10 15
 Ser Ser Ala Pro Asn Gln Val Leu Ser Met Asp Phe Val Phe Asp Ala
 20 25 30
 Leu Ser Thr Gly Arg Arg Ile Lys Cys Leu Thr Val Val Asp Asp Phe
 35 40 45
 Thr Lys Val Ser Val Asp Ile Leu Val Glu Tyr Gly Ile Ser Gly Phe
 50 55 60
 Arg Val Thr Arg Ala Leu Asp Glu Met Ala Arg Phe Arg Gly Tyr Pro
 65 70 75 80
 Gln Ala Ile Arg Thr Asp Gln Gly Pro Glu Phe Thr Gly Lys Ala Leu

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| Asp | Gln | Trp | Ala | Cys | Gln | Arg | Asp | Ile | Lys | Leu | Lys | Leu | Ile | Gln | Pro | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | |
| Gly | Gln | Pro | Thr | Gln | Ser | Ala | Phe | Ile | Glu | Ser | Phe | Asn | Gly | Lys | Phe | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | |
| Arg | Gly | Glu | Cys | Leu | Asn | Glu | His | Cys | Ser | Leu | Val | Glu | Ala | Arg | Ile | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Arg | Ile | Ala | Ala | Trp | Arg | Asp | Tyr | Asn | Glu | His | Arg | Pro | His | Ser | Ala | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Ile | Gly | Asn | Leu | Ser | Pro | Ala | Glu | Leu | Ala | Ala | Lys | Trp | Arg | Thr | Asn | | |
| | | | 165 | | | | | 170 | | | | | | 175 | | | |
| Gln | Gln | Gln | Leu | Lys | Arg | Glu | Lys | Leu | Ile | Ser | Thr | Pro | | | | | |
| | | | 180 | | | | | 185 | | | | | | | | | |

<210> 228

<211> 687

<212> PRT

<213> Pseudomonas aeruginosa

<400> 228

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | His | Ile | Gln | Ser | Leu | Gly | Ala | Thr | Ala | Ser | Ser | Leu | Asn | Gln | Glu | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Pro | Val | Glu | Thr | Pro | Ser | Gln | Ala | Ala | His | Lys | Ser | Ala | Ser | Leu | Arg | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| Gln | Glu | Pro | Ser | Gly | Gln | Gly | Leu | Gly | Val | Ala | Leu | Lys | Ser | Thr | Pro | | |
| | | 35 | | | | 40 | | | | | | 45 | | | | | |
| Gly | Ile | Leu | Ser | Gly | Lys | Leu | Pro | Glu | Ser | Val | Ser | Asp | Val | Arg | Phe | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Ser | Ser | Pro | Gln | Gly | Gln | Gly | Glu | Ser | Arg | Thr | Leu | Thr | Asp | Ser | Ala | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Gly | Pro | Arg | Gln | Ile | Thr | Leu | Arg | Gln | Phe | Glu | Asn | Gly | Val | Thr | Glu | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Leu | Gln | Leu | Ser | Arg | Pro | Pro | Leu | Thr | Ser | Leu | Val | Leu | Ser | Gly | Gly | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | |
| Gly | Ala | Lys | Gly | Ala | Ala | Tyr | Pro | Gly | Ala | Met | Leu | Ala | Leu | Glu | Glu | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | |
| Lys | Gly | Met | Leu | Asp | Gly | Ile | Arg | Ser | Met | Ser | Gly | Ser | Ser | Ala | Gly | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Gly | Ile | Thr | Ala | Ala | Leu | Leu | Ala | Ser | Gly | Met | Ser | Pro | Ala | Ala | Phe | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Lys | Thr | Leu | Ser | Asp | Lys | Met | Asp | Leu | Ile | Ser | Leu | Leu | Asp | Ser | Ser | | |
| | | | 165 | | | | | | 170 | | | | | 175 | | | |
| Asn | Lys | Lys | Leu | Lys | Leu | Phe | Gln | His | Ile | Ser | Ser | Glu | Ile | Gly | Ala | | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | |
| Ser | Leu | Lys | Lys | Gly | Leu | Gly | Asn | Lys | Ile | Gly | Gly | Phe | Ser | Glu | Leu | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | |
| Leu | Leu | Asn | Val | Leu | Pro | Arg | Ile | Asp | Ser | Arg | Ala | Glu | Pro | Leu | Glu | | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | |
| Arg | Leu | Leu | Arg | Asp | Glu | Thr | Arg | Lys | Ala | Val | Leu | Gly | Gln | Ile | Ala | | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | | |
| Thr | His | Pro | Glu | Val | Ala | Arg | Gln | Pro | Thr | Val | Ala | Ala | Ile | Ala | Ser | | |
| | | | | 245 | | | | | 250 | | | | | 255 | | | |
| Arg | Leu | Gln | Ser | Gly | Ser | Gly | Val | Thr | Phe | Gly | Asp | Leu | Asp | Arg | Leu | | |
| | | | 260 | | | | | | 265 | | | | 270 | | | | |
| Ser | Ala | Tyr | Ile | Pro | Gln | Ile | Lys | Thr | Leu | Asn | Ile | Thr | Gly | Thr | Ala | | |
| | | 275 | | | | | 280 | | | | | 285 | | | | | |
| Met | Phe | Glu | Gly | Arg | Pro | Gln | Leu | Val | Val | Phe | Asn | Ala | Ser | His | Thr | | |
| | 290 | | | | | 295 | | | | | 300 | | | | | | |

Pro Asp Leu Glu Val Ala Gln Ala Ala His Ile Ser Gly Ser Phe Pro
 305 310 315 320
 Gly Val Phe Gln Lys Val Ser Leu Ser Asp Gln Pro Tyr Gln Ala Gly
 325 330 335
 Val Glu Trp Thr Glu Phe Gln Asp Gly Gly Val Met Ile Asn Val Pro
 340 345 350
 Val Pro Glu Met Ile Asp Lys Asn Phe Asp Ser Gly Pro Leu Arg Arg
 355 360 365
 Asn Asp Asn Leu Ile Leu Glu Phe Glu Gly Glu Ala Gly Glu Val Ala
 370 375 380
 Pro Asp Arg Gly Thr Arg Gly Gly Ala Leu Lys Gly Trp Val Val Gly
 385 390 395 400
 Val Pro Ala Leu Gln Ala Arg Glu Met Leu Gln Leu Glu Gly Leu Glu
 405 410 415
 Glu Leu Arg Glu Gln Thr Val Val Val Pro Leu Lys Ser Glu Arg Gly
 420 425 430
 Asp Phe Ser Gly Met Leu Gly Gly Thr Leu Asn Phe Thr Met Pro Asp
 435 440 445
 Glu Ile Lys Ala His Leu Gln Glu Arg Leu Gln Glu Arg Val Gly Glu
 450 455 460
 His Leu Glu Lys Arg Leu Gln Ala Ser Glu Arg His Thr Phe Ala Ser
 465 470 475 480
 Leu Asp Glu Ala Leu Leu Ala Leu Asp Asp Ser Met Leu Thr Ser Val
 485 490 495
 Ala Gln Gln Asn Pro Glu Ile Thr Asp Gly Ala Val Ala Phe Arg Gln
 500 505 510
 Lys Ala Arg Asp Ala Phe Thr Glu Leu Thr Val Ala Ile Val Ser Ala
 515 520 525
 Asn Gly Leu Ala Gly Arg Leu Lys Leu Asp Glu Ala Met Arg Ser Ala
 530 535 540
 Leu Gln Arg Leu Asp Ala Leu Ala Asp Thr Pro Glu Arg Leu Ala Trp
 545 550 555 560
 Leu Ala Ala Glu Leu Asn His Ala Asp Asn Val Asp His Gln Gln Leu
 565 570 575
 Leu Asp Ala Met Arg Gly Gln Thr Val Gln Ser Pro Val Leu Ala Ala
 580 585 590
 Ala Leu Ala Glu Ala Gln Arg Arg Lys Val Ala Val Ile Ala Glu Asn
 595 600 605
 Ile Arg Lys Glu Val Ile Phe Pro Ser Leu Tyr Arg Pro Gly Gln Pro
 610 615 620
 Asp Ser Asn Val Ala Leu Leu Arg Arg Ala Glu Glu Gln Leu Arg His
 625 630 635 640
 Ala Thr Ser Pro Ala Glu Ile Asn Gln Ala Leu Asn Asp Ile Val Asp
 645 650 655
 Asn Tyr Ser Ala Arg Gly Phe Leu Arg Phe Gly Lys Pro Leu Ser Ser
 660 665 670
 Thr Thr Val Glu Met Ala Lys Ala Trp Arg Asn Lys Glu Phe Thr
 675 680 685

<210> 229
 <211> 137
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 229
 Met Ile Asp Thr Trp Leu Ala Gln Trp Gly Leu Arg Leu Pro Ser Ser
 1 5 10 15
 Asn Asp Ala Thr Leu Arg Leu Gln Pro Ala Glu Gly Pro Glu Leu Val

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| Met | Glu | Arg | Leu | Glu | Gly | Gly | Trp | Leu | Phe | Val | Val | Glu | Leu | Gly | Leu | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Val | Pro | Ser | Gly | Leu | Pro | Leu | Gly | Val | Ile | Leu | Gln | Leu | Leu | Gln | Val | | |
| | | 50 | | | | 55 | | | | | 60 | | | | | | |
| Asn | Ser | Pro | Phe | Ser | Ser | Leu | Ala | Pro | Val | Lys | Leu | Ala | Ala | Asp | Asp | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Ala | Gly | Arg | Leu | Val | Leu | Trp | Ala | Glu | Ala | Arg | Asp | Gly | Val | Asp | Asp | | |
| | | | 85 | | | | | 90 | | | | | | 95 | | | |
| Val | Asp | Ala | Leu | Asn | Arg | Leu | His | Asp | Arg | Leu | Arg | Glu | Gly | His | Ser | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| Arg | Leu | Val | Pro | Leu | Leu | Glu | Pro | Thr | Gly | Glu | Leu | Val | Pro | Ala | Gln | | |
| | | 115 | | | | 120 | | | | | | 125 | | | | | |
| Ile | Gln | Thr | Ser | Ala | Leu | Val | Phe | Val | | | | | | | | | |
| | 130 | | | | | 135 | | | | | | | | | | | |

<210> 230
 <211> 76
 <212> PRT
 <213> Pseudomonas aeruginosa

<220>

| | | | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| <400> 230 | | | | | | | | | | | | | | | | | |
| Asp | Gln | Thr | Cys | Asp | Asn | Leu | Ser | Gln | Asn | Pro | Pro | His | His | Leu | Leu | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Leu | Arg | Leu | Leu | Asp | His | Trp | Gly | Asp | Pro | Ala | Gly | Cys | Trp | Ser | Leu | | |
| | | 20 | | | | | 25 | | | | | 30 | | | | | |
| Gly | Gln | Thr | Tyr | Ser | Gly | His | Leu | Tyr | Leu | Pro | Tyr | Cys | Arg | Glu | Leu | | |
| | | 35 | | | | 40 | | | | | 45 | | | | | | |
| His | Lys | Cys | Ser | Leu | Cys | Ala | His | Arg | Asn | Trp | His | His | Tyr | Cys | Cys | | |
| | 50 | | | | 55 | | | | | 60 | | | | | | | |
| Leu | Trp | Pro | Val | Trp | Met | Leu | Cys | Tyr | Met | Ser | Trp | | | | | | |
| 65 | | | | | 70 | | | | 75 | | | | | | | | |

<210> 231
 <211> 76
 <212> PRT
 <213> Pseudomonas aeruginosa

| | | | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| <400> 231 | | | | | | | | | | | | | | | | | |
| Asp | Gln | Thr | Cys | Asp | Asn | Leu | Ser | Gln | Asn | Pro | Pro | His | His | Leu | Leu | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Leu | Arg | Leu | Leu | Asp | His | Trp | Gly | Asp | Pro | Ala | Gly | Cys | Trp | Ser | Leu | | |
| | | 20 | | | | | 25 | | | | | 30 | | | | | |
| Gly | Gln | Thr | Tyr | Ser | Gly | His | Leu | Tyr | Leu | Pro | Tyr | Cys | Arg | Glu | Leu | | |
| | | 35 | | | | 40 | | | | | 45 | | | | | | |
| His | Lys | Cys | Ser | Leu | Cys | Ala | His | Arg | Asn | Trp | His | His | Tyr | Cys | Cys | | |
| | 50 | | | | 55 | | | | | 60 | | | | | | | |
| Leu | Trp | Pro | Val | Trp | Met | Leu | Cys | Tyr | Met | Ser | Trp | | | | | | |
| 65 | | | | | 70 | | | | 75 | | | | | | | | |

<210> 232
 <211> 76
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 232
 Asp Gln Thr Cys Asp Asn Leu Ser Gln Asn Pro Pro His His Leu Leu
 1 5 10 15
 Leu Arg Leu Leu Asp His Trp Gly Asp Pro Ala Gly Cys Trp Ser Leu
 20 25 30
 Gly Gln Thr Tyr Ser Gly His Leu Tyr Leu Pro Tyr Cys Arg Glu Leu
 35 40 45
 His Lys Cys Ser Leu Cys Ala His Arg Asn Trp His His Tyr Cys Cys
 50 55 60
 Leu Trp Pro Val Trp Met Leu Cys Tyr Met Ser Trp
 65 70 75

<210> 233
 <211> 58
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 233
 Gln Val Gln His Pro Pro Leu Cys Leu Leu Asp Gln His Gln Gln Glu
 1 5 10 15
 Cys Ile Pro Pro Cys Leu Pro Pro Asp His Leu Gln Asp Pro Gln His
 20 25 30
 Pro Phe Leu Leu Pro Asp His His Val Pro His Leu Val Val Leu Ile
 35 40 45
 Gln Pro Gln Leu Cys Arg Ala Leu Ala Pro
 50 55

<210> 234
 <211> 56
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 234
 Gln Val Gln His Pro Cys Leu Leu Asp Gln His Gln Gln Glu Cys Ile
 1 5 10 15
 Pro Pro Cys Leu Pro Pro Asp His Leu Gln Asp Pro Gln His Pro Phe
 20 25 30
 Leu Leu Pro Asp His His Val Pro His Leu Val Val Leu Ile Gln Pro
 35 40 45
 Gln Leu Cys Arg Ala Leu Ala Pro
 50 55

<210> 235
 <211> 58
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<220>
 <221> VARIANT
 <222> 6,7
 <223> Xaa = Any amino acid

<400> 235
 Gln Val Gln His Pro Xaa Xaa Cys Leu Leu Asp Gln His Gln Gln Glu
 1 5 10 15
 Cys Ile Pro Pro Cys Leu Pro Pro Asp His Leu Gln Asp Pro Gln His

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| Pro | Phe | Leu | Leu | Pro | Asp | His | His | Val | Pro | His | Leu | Val | Val | Leu | Ile | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Gln | Pro | Gln | Leu | Cys | Arg | Ala | Leu | Ala | Pro | | | | | | | | |
| | | 50 | | | | 55 | | | | | | | | | | | |

<210> 236
 <211> 161
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 236

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Cys | Gly | Gly | Ala | Ser | Cys | His | Asn | Thr | Leu | Gly | Ser | Tyr | Lys | Cys | Met | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Cys | Pro | Ala | Gly | Phe | Gln | Tyr | Glu | Gln | Phe | Ser | Gly | Gly | Cys | Gln | Asp | | |
| | | 20 | | | | | 25 | | | | | | 30 | | | | |
| Ile | Asn | Glu | Cys | Gly | Ser | Ala | Gln | Ala | Pro | Cys | Ser | Tyr | Gly | Cys | Ser | | |
| | 35 | | | | | | 40 | | | | | 45 | | | | | |
| Asn | Thr | Glu | Gly | Gly | Tyr | Leu | Cys | Gly | Cys | Pro | Pro | Gly | Tyr | Phe | Arg | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Ile | Gly | Gln | Gly | His | Cys | Val | Ser | Gly | Met | Gly | Met | Gly | Arg | Gly | Asn | | |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 | | |
| Pro | Glu | Pro | Pro | Val | Ser | Gly | Glu | Met | Asp | Asp | Asn | Ser | Leu | Ser | Pro | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Glu | Ala | Cys | Tyr | Glu | Cys | Lys | Ile | Asn | Gly | Tyr | Pro | Lys | Arg | Gly | Arg | | |
| | | 100 | | | | | 105 | | | | | | 110 | | | | |
| Lys | Arg | Arg | Ser | Thr | Asn | Glu | Thr | Asp | Ala | Ser | Asn | Ile | Glu | Asp | Gln | | |
| | 115 | | | | | 120 | | | | | | 125 | | | | | |
| Ser | Glu | Thr | Glu | Ala | Asn | Val | Ser | Leu | Ala | Ser | Trp | Asp | Val | Glu | Lys | | |
| | 130 | | | | 135 | | | | | | 140 | | | | | | |
| Thr | Ala | Ile | Phe | Ala | Phe | Asn | Ile | Ser | His | Val | Asn | Lys | Val | Arg | Ile | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Leu | | | | | | | | | | | | | | | | | |

<210> 237
 <211> 161
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 237

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Cys | Gly | Gly | Ala | Ser | Cys | His | Asn | Thr | Leu | Gly | Ser | Tyr | Lys | Cys | Met | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Cys | Pro | Ala | Gly | Phe | Gln | Tyr | Glu | Gln | Phe | Ser | Gly | Gly | Cys | Gln | Asp | | |
| | | 20 | | | | | 25 | | | | | | 30 | | | | |
| Ile | Asn | Glu | Cys | Gly | Ser | Ala | Gln | Ala | Pro | Cys | Ser | Tyr | Gly | Cys | Ser | | |
| | 35 | | | | | | 40 | | | | | 45 | | | | | |
| Asn | Thr | Glu | Gly | Gly | Tyr | Leu | Cys | Gly | Cys | Pro | Pro | Gly | Tyr | Phe | Arg | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Ile | Gly | Gln | Gly | His | Cys | Val | Ser | Gly | Met | Gly | Met | Gly | Arg | Gly | Asn | | |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 | | |
| Pro | Glu | Pro | Pro | Val | Ser | Gly | Glu | Met | Asp | Asp | Asn | Ser | Leu | Ser | Pro | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Glu | Ala | Cys | Tyr | Glu | Cys | Lys | Ile | Asn | Gly | Tyr | Pro | Lys | Arg | Gly | Arg | | |
| | | 100 | | | | | 105 | | | | | | 110 | | | | |
| Lys | Arg | Arg | Ser | Thr | Asn | Glu | Thr | Asp | Ala | Ser | Asn | Ile | Glu | Asp | Gln | | |
| | 115 | | | | | 120 | | | | | | 125 | | | | | |

Ser Glu Thr Glu Ala Asn Val Ser Leu Ala Ser Trp Asp Val Glu Lys
 130 135 140
 Thr Ala Ile Phe Ala Phe Asn Ile Ser His Val Asn Lys Val Arg Ile
 145 150 155 160
 Leu

<210> 238
 <211> 162
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 238
 Cys Gly Gly Ala Ser Cys His Asn Thr Leu Gly Ser Tyr Lys Cys Met
 1 5 10 15
 Cys Pro Ala Gly Phe Gln Tyr Glu Gln Phe Ser Gly Gly Cys Gln Asp
 20 25 30
 Ile Asn Glu Cys Gly Ser Ala Gln Ala Pro Cys Ser Tyr Gly Cys Ser
 35 40 45
 Asn Thr Glu Gly Gly Tyr Leu Cys Gly Cys Pro Pro Gly Tyr Phe Arg
 50 55 60
 Ile Gly Gln Gly His Cys Val Ser Gly Met Gly Met Gly Arg Gly Asn
 65 70 75 80
 Pro Glu Pro Pro Val Ser Gly Glu Met Asp Asp Asn Ser Leu Ser Pro
 85 90 95
 Glu Ala Cys Tyr Glu Cys Lys Ile Asn Gly Tyr Pro Lys Arg Gly Arg
 100 105 110
 Lys Arg Arg Ser Thr Asn Glu Thr Asp Ala Ser Asn Ile Glu Asp Gln
 115 120 125
 Ser Glu Thr Glu Ala Asn Val Ser Leu Ala Ser Trp Asp Val Glu Lys
 130 135 140
 Thr Ala Ile Phe Ala Phe Asn Ile Ser His Val Ser Asn Lys Val Arg
 145 150 155 160
 Ile Leu

<210> 239
 <211> 88
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 239
 Asp Gly Asp Val Tyr Asn Pro Ser Thr Gly Val Phe Thr Ala Pro Tyr
 1 5 10 15
 Asp Gly Arg Tyr Leu Ile Thr Ala Thr Leu Thr Pro Glu Arg Asp Ala
 20 25 30
 Tyr Val Glu Ala Val Leu Ser Val Ser Asn Ala Ser Val Ala Gln Leu
 35 40 45
 His Thr Ala Gly Tyr Arg Arg Glu Phe Leu Glu Tyr His Arg Pro Pro
 50 55 60
 Gly Ala Leu His Thr Cys Gly Gly Pro Gly Ala Phe His Leu Ile Val
 65 70 75 80
 His Leu Lys Ala Gly Asp Ala Val
 85

<210> 240

<211> 46
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 240
 Asp Gly Tyr Pro Thr Gly Val Phe Thr Ala Pro Gly Arg Tyr Leu Ala
 1 5 10 15
 Leu Thr Arg Val Glu Ala Val Leu Ser Ser Asn Val Ala Gly Tyr Glu
 20 25 30
 Leu Glu Pro Gly Gly Pro Phe Leu Ile Leu Ala Gly Asp Val
 35 40 45

<210> 241
 <211> 88
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 241
 Asp Gly Gly Tyr Tyr Asp Pro Glu Thr Gly Val Phe Thr Ala Pro Leu
 1 5 10 15
 Ala Gly Arg Tyr Leu Leu Ser Ala Val Leu Thr Gly His Arg His Glu
 20 25 30
 Lys Val Glu Ala Val Leu Ser Arg Ser Asn Gln Gly Val Ala Arg Val
 35 40 45
 Asp Ser Gly Gly Tyr Glu Pro Glu Gly Leu Glu Asn Lys Pro Val Ala
 50 55 60
 Glu Ser Gln Pro Ser Pro Gly Thr Leu Gly Val Phe Ser Leu Ile Leu
 65 70 75 80
 Pro Leu Gln Ala Gly Asp Thr Val
 85

<210> 242
 <211> 88
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 242
 Asp Gly Asp Val Tyr Asn Pro Ser Thr Gly Val Phe Thr Ala Pro Tyr
 1 5 10 15
 Asp Gly Arg Tyr Leu Ile Thr Ala Thr Leu Thr Pro Glu Arg Asp Ala
 20 25 30
 Tyr Val Glu Ala Val Leu Ser Val Ser Asn Ala Ser Val Ala Gln Leu
 35 40 45
 His Thr Ala Gly Tyr Arg Arg Glu Phe Leu Glu Tyr His Arg Pro Pro
 50 55 60
 Gly Ala Leu His Thr Cys Gly Gly Pro Gly Ala Phe His Leu Ile Val
 65 70 75 80
 His Leu Lys Ala Gly Asp Ala Val
 85

<210> 243
 <211> 45
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 243

Asp Gly Tyr Pro Thr Gly Val Phe Thr Ala Pro Gly Arg Tyr Leu Ala
 1 5 10 15
 Leu Thr Arg Val Glu Ala Val Leu Ser Ser Asn Val Ala Gly Tyr Glu
 20 25 30
 Leu Glu Pro Gly Gly Phe Leu Ile Leu Ala Gly Asp Val
 35 40 45

<210> 244
 <211> 88
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 244
 Asp Gly Gly Tyr Tyr Asp Pro Glu Thr Gly Val Phe Thr Ala Pro Leu
 1 5 10 15
 Ala Gly Arg Tyr Leu Leu Ser Ala Val Leu Thr Gly His Arg His Glu
 20 25 30
 Lys Val Glu Ala Val Leu Ser Arg Ser Asn Gln Gly Val Ala Arg Val
 35 40 45
 Asp Ser Gly Gly Tyr Glu Pro Glu Gly Leu Glu Asn Lys Pro Val Ala
 50 55 60
 Glu Ser Gln Pro Ser Pro Gly Thr Leu Gly Val Phe Ser Leu Ile Leu
 65 70 75 80
 Pro Leu Gln Ala Gly Asp Thr Val
 85

<210> 245
 <211> 51
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 245
 Gly Glu Asn Gly Ser Ser Gly Ser Gln Ala Pro Leu Gln Gly Leu Arg
 1 5 10 15
 Gly Ile Phe Gly Leu Trp Gly Arg Arg Ser Arg Ala Arg Phe Cys Gly
 20 25 30
 Pro Arg Pro Val Ala Arg Leu Gly Gly Gly Thr Ser Ala Gly Arg Glu
 35 40 45
 Leu Gly Leu
 50

<210> 246
 <211> 24
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 246
 Gly Glu Gly Ser Gly Pro Gln Gly Arg Gly Ile Gly Gly Gly Pro Arg
 1 5 10 15
 Pro Gly Gly Gly Ser Gly Gly Leu
 20

<210> 247
 <211> 51
 <212> PRT

<213> Pseudomonas aeruginosa

<400> 247

Gly Glu Pro Gly Pro Ser Gly Glu Asn Gly Pro Gln Gly Val Arg Gly
1 5 10 15
Ile Pro Gly Val Val Gly Glu Asn Gly Lys Thr Gly Arg Gly Gly Pro
20 25 30
Arg Gly Pro Pro Gly Leu Arg Gly Gly Gly Ser Arg Gly Glu Arg
35 40 45
Gly Gly Leu
50

<210> 248

<211> 51

<212> PRT

<213> Pseudomonas aeruginosa

<400> 248

Gly Glu Asn Gly Ser Ser Gly Ser Gln Ala Pro Leu Gln Gly Leu Arg
1 5 10 15
Gly Ile Phe Gly Leu Trp Gly Arg Arg Ser Arg Ala Arg Phe Cys Gly
20 25 30
Pro Arg Pro Val Ala Arg Leu Gly Gly Gly Thr Ser Ala Gly Arg Glu
35 40 45
Leu Gly Leu
50

<210> 249

<211> 24

<212> PRT

<213> Pseudomonas aeruginosa

<400> 249

Gly Glu Gly Ser Gly Pro Gln Gly Arg Gly Ile Gly Gly Gly Pro Arg
1 5 10 15
Pro Gly Gly Gly Ser Gly Gly Leu
20

<210> 250

<211> 51

<212> PRT

<213> Pseudomonas aeruginosa

<400> 250

Gly Glu Pro Gly Pro Ser Gly Glu Asn Gly Pro Gln Gly Val Arg Gly
1 5 10 15
Ile Pro Gly Val Val Gly Glu Asn Gly Lys Thr Gly Arg Gly Gly Pro
20 25 30
Arg Gly Pro Pro Gly Leu Arg Gly Gly Gly Gly Ser Arg Gly Glu Arg
35 40 45
Gly Gly Leu
50

<210> 251

<211> 138

<212> PRT
 <213> Pseudomonas aeruginosa

<400> 251
 Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met
 1 5 10 15
 Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly
 20 25 30
 Arg Arg Gln Arg Ile Thr Met Ala Ile Arg Thr Val Arg Glu Glu Ile
 35 40 45
 Leu Lys Ala Gln Thr Pro Glu Gly His Phe Gly Asn Val Tyr Ser Thr
 50 55 60
 Pro Leu Ala Leu Gln Phe Leu Met Thr Ser Pro Met Pro Gly Ala Glu
 65 70 75 80
 Leu Gly Thr Ala Cys Leu Lys Ala Arg Val Ala Leu Leu Ala Ser Leu
 85 90 95
 Gln Asp Gly Ala Phe Gln Asn Ala Leu Met Ile Ser Gln Leu Leu Pro
 100 105 110
 Val Leu Asn His Lys Thr Tyr Ile Asp Leu Ile Phe Pro Asp Cys Leu
 115 120 125
 Ala Pro Arg Val Met Leu Glu Pro Ala Ala
 130 135

<210> 252
 <211> 138
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 252
 Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met
 1 5 10 15
 Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly
 20 25 30
 Arg Arg Gln Arg Ile Thr Met Ala Ile Arg Thr Val Arg Glu Glu Ile
 35 40 45
 Leu Lys Ala Gln Thr Pro Glu Gly His Phe Gly Asn Val Tyr Ser Thr
 50 55 60
 Pro Leu Ala Leu Gln Phe Leu Met Thr Ser Pro Met Pro Gly Ala Glu
 65 70 75 80
 Leu Gly Thr Ala Cys Leu Lys Ala Arg Val Ala Leu Leu Ala Ser Leu
 85 90 95
 Gln Asp Gly Ala Phe Gln Asn Ala Leu Met Ile Ser Gln Leu Leu Pro
 100 105 110
 Val Leu Asn His Lys Thr Tyr Ile Asp Leu Ile Phe Pro Asp Cys Leu
 115 120 125
 Ala Pro Arg Val Met Leu Glu Pro Ala Ala
 130 135

<210> 253
 <211> 138
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 253
 Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met
 1 5 10 15
 Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | 20 | | | | | | 25 | | | | | 30 | | | | |
| Arg | Arg | Gln | Arg | Ile | Thr | Met | Ala | Ile | Arg | Thr | Val | Arg | Glu | Glu | Ile | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Leu | Lys | Ala | Gln | Thr | Pro | Glu | Gly | His | Phe | Gly | Asn | Val | Tyr | Ser | Thr | | |
| | | 50 | | | | 55 | | | | | 60 | | | | | | |
| Pro | Leu | Ala | Leu | Gln | Phe | Leu | Met | Thr | Ser | Pro | Met | Pro | Gly | Ala | Glu | | |
| 65 | | | | | 70 | | | | 75 | | | | | | 80 | | |
| Leu | Gly | Thr | Ala | Cys | Leu | Lys | Ala | Arg | Val | Ala | Leu | Leu | Ala | Ser | Leu | | |
| | | | | 85 | | | | 90 | | | | | | 95 | | | |
| Gln | Asp | Gly | Ala | Phe | Gln | Asn | Ala | Leu | Met | Ile | Ser | Gln | Leu | Leu | Pro | | |
| | | 100 | | | | | 105 | | | | | 110 | | | | | |
| Val | Leu | Asn | His | Lys | Thr | Tyr | Ile | Asp | Leu | Ile | Phe | Pro | Asp | Cys | Leu | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | |
| Ala | Pro | Arg | Val | Met | Leu | Glu | Pro | Ala | Ala | | | | | | | | |
| | | 130 | | | | 135 | | | | | | | | | | | |

<210> 254
 <211> 40
 <212> PRT
 <213> *Pseudomonas aeruginosa*

| | | | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| <400> 254 | | | | | | | | | | | | | | | | | |
| Val | Glu | Pro | Phe | His | Gln | Gly | His | His | Ser | Val | Asp | Thr | Ala | Ala | Met | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Ala | Gly | Leu | Ala | Phe | Thr | Cys | Leu | Lys | Arg | Ser | Asn | Phe | Asn | Pro | Gly | | |
| | | 20 | | | | | 25 | | | | | | 30 | | | | |
| Arg | Arg | Gln | Arg | Ile | Thr | Met | Ala | | | | | | | | | | |
| | | 35 | | | | 40 | | | | | | | | | | | |

<210> 255
 <211> 40
 <212> PRT
 <213> *Pseudomonas aeruginosa*

| | | | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| <400> 255 | | | | | | | | | | | | | | | | | |
| Val | Glu | Pro | Phe | His | Gln | Gly | His | His | Ser | Val | Asp | Thr | Ala | Ala | Met | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Ala | Gly | Leu | Ala | Phe | Thr | Cys | Leu | Lys | Arg | Ser | Asn | Phe | Asn | Pro | Gly | | |
| | | 20 | | | | | 25 | | | | | | 30 | | | | |
| Arg | Arg | Gln | Arg | Ile | Thr | Met | Ala | | | | | | | | | | |
| | | 35 | | | | 40 | | | | | | | | | | | |

<210> 256
 <211> 40
 <212> PRT
 <213> *Pseudomonas aeruginosa*

| | | | | | | | | | | | | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| <400> 256 | | | | | | | | | | | | | | | | | |
| Val | Glu | Pro | Phe | His | Gln | Gly | His | His | Ser | Val | Asp | Thr | Ala | Ala | Met | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Ala | Gly | Leu | Ala | Phe | Thr | Cys | Leu | Lys | Arg | Ser | Asn | Phe | Asn | Pro | Gly | | |
| | | 20 | | | | | 25 | | | | | | 30 | | | | |
| Arg | Arg | Gln | Arg | Ile | Thr | Met | Ala | | | | | | | | | | |
| | | 35 | | | | 40 | | | | | | | | | | | |

<210> 257
 <211> 40
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 257
 Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met
 1 5 10 15
 Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly
 20 25 30
 Arg Arg Gln Arg Ile Thr Met Ala
 35 40

<210> 258
 <211> 40
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 258
 Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met
 1 5 10 15
 Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly
 20 25 30
 Arg Arg Gln Arg Ile Thr Met Ala
 35 40

<210> 259
 <211> 40
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 259
 Val Glu Pro Phe His Gln Gly His His Ser Val Asp Thr Ala Ala Met
 1 5 10 15
 Ala Gly Leu Ala Phe Thr Cys Leu Lys Arg Ser Asn Phe Asn Pro Gly
 20 25 30
 Arg Arg Gln Arg Ile Thr Met Ala
 35 40

<210> 260
 <211> 141
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 260
 Arg Asn Cys Gln Asp Ile Asp Glu Cys Val Thr Gly Ile His Asn Cys
 1 5 10 15
 Ser Ile Asn Glu Thr Cys Phe Asn Ile Gln Gly Gly Phe Arg Cys Leu
 20 25 30
 Ala Phe Glu Cys Pro Glu Asn Tyr Arg Arg Ser Ala Ala Thr Leu Gln
 35 40 45
 Gln Glu Lys Thr Asp Thr Val Arg Cys Ile Lys Ser Cys Arg Pro Asn
 50 55 60
 Asp Val Thr Cys Val Phe Asp Pro Val His Thr Ile Ser His Thr Val
 65 70 75 80
 Ile Ser Leu Pro Thr Phe Arg Glu Phe Thr Arg Pro Glu Glu Ile Ile

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | 85 | | | | | 90 | | | | 95 | | | |
| Phe | Leu | Arg | Ala | Ile | Thr | Pro | Pro | His | Pro | Ala | Ser | Gln | Ala | Asn | Ile | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Ile | Phe | Asp | Ile | Thr | Glu | Gly | Asn | Leu | Arg | Asp | Ser | Phe | Asp | Ile | Ile | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Lys | Arg | Tyr | Met | Asp | Gly | Met | Thr | Val | Gly | Ile | Arg | Arg | | | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |

<210> 261
 <211> 138
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 261

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Arg | Asn | Cys | Gln | Asp | Ile | Asp | Glu | Cys | Val | Thr | Gly | Ile | His | Asn | Cys | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Ser | Ile | Asn | Glu | Thr | Cys | Phe | Asn | Ile | Gln | Gly | Phe | Arg | Cys | Leu | Ala | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Phe | Glu | Cys | Pro | Glu | Asn | Tyr | Arg | Arg | Ser | Ala | Ala | Thr | Leu | Gln | Gln | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Glu | Lys | Thr | Asp | Thr | Val | Arg | Cys | Ile | Lys | Ser | Cys | Arg | Pro | Asn | Asp | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Val | Thr | Cys | Val | Phe | Asp | Pro | Val | His | Thr | Ile | Ser | His | Thr | Val | Ile | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Ser | Leu | Pro | Thr | Phe | Arg | Glu | Phe | Thr | Arg | Pro | Glu | Glu | Ile | Ile | Phe | |
| | | | | 85 | | | | 90 | | | | | | 95 | | |
| Leu | Arg | Ala | Ile | Thr | Pro | Pro | His | Pro | Ala | Ser | Gln | Ala | Asn | Ile | Ile | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Phe | Asp | Ile | Thr | Glu | Gly | Asn | Leu | Arg | Asp | Ser | Phe | Asp | Ile | Ile | Lys | |
| | | 115 | | | | 120 | | | | | | 125 | | | | |
| Arg | Tyr | Met | Asp | Gly | Met | Thr | Val | Gly | Arg | | | | | | | |
| | 130 | | | | | 135 | | | | | | | | | | |

<210> 262
 <211> 141
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 262

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Arg | Asn | Cys | Gln | Asp | Ile | Asp | Glu | Cys | Val | Thr | Gly | Ile | His | Asn | Cys | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Ser | Ile | Asn | Glu | Thr | Cys | Phe | Asn | Ile | Gln | Gly | Ala | Phe | Arg | Cys | Leu | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Ala | Phe | Glu | Cys | Pro | Glu | Asn | Tyr | Arg | Arg | Ser | Ala | Ala | Thr | Leu | Gln | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Gln | Glu | Lys | Thr | Asp | Thr | Val | Arg | Cys | Ile | Lys | Ser | Cys | Arg | Pro | Asn | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Asp | Val | Thr | Cys | Val | Phe | Asp | Pro | Val | His | Thr | Ile | Ser | His | Thr | Val | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Ile | Ser | Leu | Pro | Thr | Phe | Arg | Glu | Phe | Thr | Arg | Pro | Glu | Glu | Ile | Ile | |
| | | | | 85 | | | | 90 | | | | | | 95 | | |
| Phe | Leu | Arg | Ala | Ile | Thr | Pro | Pro | His | Pro | Ala | Ser | Gln | Ala | Asn | Ile | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Ile | Phe | Asp | Ile | Thr | Glu | Gly | Asn | Leu | Arg | Asp | Ser | Phe | Asp | Ile | Ile | |
| | | 115 | | | | 120 | | | | | | 125 | | | | |
| Lys | Arg | Tyr | Met | Asp | Gly | Met | Thr | Val | Gly | Val | Val | Arg | | | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |

<210> 263
 <211> 150
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<220>
 <221> VARIANT
 <222> 14, 18, 19, 35, 37, 42, 51, 55, 60, 68, 70, 74, 85, 87, 91,
 96, 98, 106, 128, 135
 <223> Xaa = Any amino acid

<400> 263
 Pro Gly Ser Arg Ile Arg Gly Arg Val Asp Thr Leu Gln Xaa Asn Ala
 1 5 10 15
 Pro Xaa Xaa Met Met Val Lys Asp Glu Tyr Val His Asp Phe Glu Gly
 20 25 30
 Gln Pro Xaa Leu Xaa Thr Glu Gly His Xaa Ile Gln Thr Ile Gln His
 35 40 45
 Pro Pro Xaa Asn Arg Ala Xaa Thr Glu Thr Tyr Xaa Thr Pro Ala Leu
 50 55 60
 Leu Ala Pro Xaa Glu Xaa Asn Ala Thr Xaa Thr Ala Asn Phe Pro Asn
 65 70 75 80
 Ile Pro Val Ala Xaa Thr Xaa Gln Pro Ala Xaa Ile Leu Gly Gly Xaa
 85 90 95
 His Xaa Glu Gly Leu Leu Gln Ile Ala Xaa Gly Pro Gln Pro Gly Gln
 100 105 110
 Gln Gln Asn Gly Phe Thr Gly Gln Pro Ala Thr Tyr His His Asn Xaa
 115 120 125
 Thr Thr Thr Trp Thr Gly Xaa Arg Thr Ala Pro Tyr Thr Pro Asn Leu
 130 135 140
 Pro His His Gln Lys Gly
 145 150

<210> 264
 <211> 122
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 264
 Pro Gly Gly Thr Leu Gln Asn Ala Pro Met Met Val Lys Asp Glu Tyr
 1 5 10 15
 Val His Asp Phe Glu Gly Gln Pro Leu Thr Glu Gly His Ile Gln Thr
 20 25 30
 Ile Gln His Pro Pro Asn Arg Ala Thr Glu Thr Tyr Thr Pro Ala Leu
 35 40 45
 Leu Ala Pro Glu Asn Ala Thr Thr Ala Asn Phe Pro Asn Ile Pro Val
 50 55 60
 Ala Thr Gln Pro Ala Ile Leu Gly Gly His Glu Gly Leu Leu Gln Ile
 65 70 75 80
 Ala Gly Pro Gln Pro Gly Gln Gln Gln Asn Gly Phe Thr Gly Gln Pro
 85 90 95
 Ala Thr Tyr His His Asn Thr Thr Thr Trp Thr Gly Arg Thr Ala Pro
 100 105 110
 Tyr Thr Pro Asn Leu Pro His His Gln Gly
 115 120

<210> 265
 <211> 148
 <212> PRT
 <213> Pseudomonas aeruginosa

<220>
 <221> VARIANT
 <222> 16, 17
 <223> Xaa = Any Amino Acid

<400> 265
 Pro Gly Ile Asp Leu Ser Gly Leu Thr Leu Gln Ser Ser Ala Pro Xaa
 1 5 10 15
 Xaa Met Met Val Lys Asp Glu Tyr Val His Asp Phe Glu Gly Gln Pro
 20 25 30
 Ser Leu Ser Thr Glu Gly His Ser Ile Gln Thr Ile Gln His Pro Pro
 35 40 45
 Ser Asn Arg Ala Ser Thr Glu Thr Tyr Ser Thr Pro Ala Leu Leu Ala
 50 55 60
 Pro Ser Glu Ser Asn Ala Thr Ser Thr Ala Asn Phe Pro Asn Ile Pro
 65 70 75 80
 Val Ala Ser Thr Ser Gln Pro Ala Ser Ile Leu Gly Gly Ser His Ser
 85 90 95
 Glu Gly Leu Leu Gln Ile Ala Ser Gly Pro Gln Pro Gly Gln Gln Gln
 100 105 110
 Asn Gly Phe Thr Gly Gln Pro Ala Thr Tyr His His Asn Ser Thr Thr
 115 120 125
 Thr Trp Thr Gly Ser Arg Thr Ala Pro Tyr Thr Pro Asn Leu Pro His
 130 135 140
 His Gln Asn Gly
 145

<210> 266
 <211> 77
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 266
 Met Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala Leu Leu Ala Leu Trp
 1 5 10 15
 Leu Cys Cys Ala Thr Pro Ala His Ala Leu Gln Cys Arg Asp Gly Tyr
 20 25 30
 Glu Pro Cys Val Asn Glu Gly Met Cys Val Thr Tyr His Asn Gly Thr
 35 40 45
 Gly Tyr Cys Lys Cys Pro Gly Phe Leu Gly Glu Tyr Cys Gln His Arg
 50 55 60
 Pro Cys Glu Lys Asn Arg Cys Gly Asp Pro Ser Thr Cys
 65 70 75

<210> 267
 <211> 62
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 267
 Met Pro Leu Arg Pro Ala Leu Ala Leu Leu Leu Trp Leu Cys Ala Pro
 1 5 10 15

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | His | Ala | Leu | Gln | Cys | Arg | Gly | Glu | Pro | Cys | Val | Asn | Glu | Gly | Cys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Thr | Tyr | His | Asn | Gly | Thr | Gly | Cys | Cys | Pro | Gly | Phe | Leu | Gly | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Tyr | Cys | Gln | His | Arg | Pro | Cys | Glu | Lys | Asn | Arg | Cys | Thr | Cys | | |
| | 50 | | | | | 55 | | | | | 60 | | | | |

<210> 268
 <211> 79
 <212> PRT
 <213> *Pseudomonas aeruginosa*

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Asp | Leu | Arg | Pro | Ala | Ala | Leu | Arg | Ala | Leu | Leu | Trp | Leu | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Cys | Gly | Ala | Gly | Pro | Ala | His | Ala | Leu | Gln | Cys | Arg | Gly | Gly | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Pro | Cys | Val | Asn | Glu | Gly | Thr | Cys | Val | Thr | Tyr | His | Asn | Gly | Thr |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Gly | Phe | Cys | Arg | Cys | Pro | Glu | Gly | Phe | Leu | Gly | Glu | Tyr | Cys | Gln | His |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Asp | Pro | Cys | Glu | Lys | Asn | Arg | Cys | Gln | Asn | Gly | Gly | Thr | Cys | |
| 65 | | | | | 70 | | | | | 75 | | | | | |

<210> 269
 <211> 163
 <212> PRT
 <213> *Pseudomonas aeruginosa*

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Arg | Gly | Arg | Val | Asp | Asp | Gln | Thr | Cys | Asp | Asn | Leu | Ser | Gln | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Pro | His | His | Leu | Leu | Leu | Arg | Leu | Leu | Asp | His | Trp | Gly | Asp | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Gly | Cys | Trp | Ser | Leu | Gly | Gln | Thr | Tyr | Ser | Gly | His | Leu | Tyr | Leu |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Pro | Tyr | Cys | Arg | Glu | Leu | His | Lys | Cys | Ser | Leu | Cys | Ala | His | Arg | Asn |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Trp | His | His | Tyr | Cys | Cys | Leu | Trp | Pro | Val | Trp | Met | Leu | Cys | Tyr | Met |
| 65 | | | | 70 | | | | | 75 | | | | | | 80 |
| Ser | Trp | Pro | Met | Asp | Ala | Glu | Thr | Val | Cys | His | Val | Ser | Val | Pro | Gly |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Val | Pro | Gly | Ala | Arg | Ser | Trp | His | Phe | Arg | Val | Cys | Val | Ser | Ser | Asp |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gln | Gly | His | Leu | Pro | Glu | Asp | Leu | His | Gly | Arg | Tyr | Ala | Asp | Leu | Gln |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Trp | Gln | Glu | Glu | Pro | Gly | Ser | Gly | Pro | Cys | Ala | Ala | Gln | Pro | Glu | Leu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Leu | Trp | Cys | Ala | Glu | Leu | His | Gln | Leu | Glu | His | Gln | Pro | Leu | Leu | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gly | Ala | Trp | | | | | | | | | | | | | |

<210> 270
 <211> 170
 <212> PRT

<213> Pseudomonas aeruginosa

<400> 270

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Ile Arg Gly Arg Val Asp Gln Val Gln His Pro Pro Leu Cys Leu Leu
 1          5          10          15
Asp Gln His Gln Gln Glu Cys Ile Pro Pro Cys Leu Pro Pro Asp His
 20          25          30
Leu Gln Asp Pro Gln His Pro Phe Leu Leu Pro Asp His His Val Pro
 35          40          45
His Leu Val Val Leu Ile Gln Pro Gln Leu Cys Arg Ala Leu Ala Pro
 50          55          60
Gln Gly His Ile Leu His Gln Ile Cys Pro Phe Gln Ser Tyr Pro His
 65          70          75          80
Met Val His Pro Gln Ile Gln Leu Gln Leu Val Leu Val His Gly Asp
 85          90          95
Pro Cys Leu Leu Asp Leu Gly Arg Gln Glu Trp Glu Gly Ser Ile Leu
100          105          110
Pro Leu Ile Cys His Ile His Leu Gln Ala His Ile Pro Leu Leu Leu
115          120          125
Pro Lys Pro Leu Gly Gln His His Leu Phe His Gly Ala Pro Phe His
130          135          140
Gln Glu Pro Gly Asp His Gln His His Ile Leu Pro Leu Gln Asp Arg
145          150          155          160
Ile Pro His Gln Asp Ser Ile Leu Leu Pro
          165          170
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<210> 271

<211> 170

<212> PRT

<213> Pseudomonas aeruginosa

<400> 271

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Ile Arg Gly Arg Val Asp Cys Gly Gly Ala Ser Cys His Asn Thr Leu
 1          5          10          15
Gly Ser Tyr Lys Cys Met Cys Pro Ala Gly Phe Gln Tyr Glu Gln Phe
 20          25          30
Ser Gly Gly Cys Gln Asp Ile Asn Glu Cys Gly Ser Ala Gln Ala Pro
 35          40          45
Cys Ser Tyr Gly Cys Ser Asn Thr Glu Gly Gly Tyr Leu Cys Gly Cys
 50          55          60
Pro Pro Gly Tyr Phe Arg Ile Gly Gln Gly His Cys Val Ser Gly Met
 65          70          75          80
Gly Met Gly Arg Gly Asn Pro Glu Pro Pro Val Ser Gly Glu Met Asp
 85          90          95
Asp Asn Ser Leu Ser Pro Glu Ala Cys Tyr Glu Cys Lys Ile Asn Gly
100          105          110
Tyr Pro Lys Arg Gly Arg Lys Arg Arg Ser Thr Asn Glu Thr Asp Ala
115          120          125
Ser Asn Ile Glu Asp Gln Ser Glu Thr Glu Ala Asn Val Ser Leu Ala
130          135          140
Ser Trp Asp Val Glu Lys Thr Ala Ile Phe Ala Phe Asn Ile Ser His
145          150          155          160
Val Ser Asn Lys Val Arg Ile Leu Leu Leu
          165          170
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<210> 272

<211> 130

<212> PRT
 <213> Pseudomonas aeruginosa

<400> 272
 Ile Arg Gly Arg Val Asp Gly Asp Val Tyr Asn Pro Ser Thr Gly Val
 1 5 10 15
 Phe Thr Ala Pro Tyr Asp Gly Arg Tyr Leu Ile Thr Ala Thr Leu Thr
 20 25 30
 Pro Glu Arg Asp Ala Tyr Val Glu Ala Val Leu Ser Val Ser Asn Ala
 35 40 45
 Ser Ser Gly Pro Ala Ala Tyr Arg Trp Val Gln Glu Arg Val Pro Gly
 50 55 60
 Ile Pro Pro Pro Ser Arg Ser Phe Ala Tyr Leu Arg Gly Pro Gly Gly
 65 70 75 80
 Ile Pro Pro His Arg Ala Pro Glu Gly Gly Arg Cys Ser Gln Arg Arg
 85 90 95
 Gly Asp Trp Gly Gln Ala Gly Ser His Arg Leu Asn Val Leu His Ile
 100 105 110
 Trp Gly Phe Leu Ile Ser Phe Pro Phe Pro Pro Leu Arg Trp Leu Gly
 115 120 125
 Arg Cys
 130

<210> 273
 <211> 143
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 273
 Ile Arg Gly Arg Val Asp Lys Glu Lys Lys Lys Val Phe Thr Leu Gly
 1 5 10 15
 Cys Gly Thr Ile Ser Gly Leu Pro Glu Gly Phe Pro Leu Glu Leu Pro
 20 25 30
 Glu Phe Pro Pro Gly His Phe Val Ser Arg Ser Gln Arg Gln Ala Gly
 35 40 45
 Tyr Ala Pro Gly Arg Ala Val Gly Ala Thr Leu Ala Asp Cys Ser Pro
 50 55 60
 Leu Leu His Leu Leu Pro Ala Ile His Pro Gln Glu Val Phe Pro Gln
 65 70 75 80
 His Trp Leu Val Arg Ser Ser Leu Cys Pro Gly Glu Asn Gly Ser Ser
 85 90 95
 Gly Ser Gln Ala Pro Leu Gln Gly Leu Arg Gly Ile Phe Gly Leu Trp
 100 105 110
 Gly Arg Arg Ser Arg Ala Arg Phe Cys Gly Pro Arg Pro Val Ala Arg
 115 120 125
 Leu Gly Gly Gly Thr Ser Ala Gly Arg Glu Leu Gly Leu Thr Pro
 130 135 140

<210> 274
 <211> 131
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 274
 Ile Arg Gly Arg Val Asp Gly Asp Asx Val Tyr Asn Pro Ser Thr Gly
 1 5 10 15
 Val Phe Thr Ala Pro Tyr Asp Gly Arg Tyr Leu Ile Thr Ala Thr Leu

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | 20 | | | | | 25 | | | | 30 | | | | | |
| Thr | Pro | Glu | Arg | Asp | Ala | Tyr | Val | Glu | Ala | Val | Leu | Ser | Val | Ser | Asn | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Ala | Ser | Ser | Gly | Pro | Ala | Ala | Tyr | Arg | Trp | Val | Trp | Glu | Arg | Val | Pro | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Gly | Ile | Pro | Pro | Pro | Ser | Arg | Ser | Phe | Ala | Tyr | Leu | Arg | Gly | Pro | Gly | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Gly | Ile | Pro | Pro | His | Arg | Ala | Pro | Glu | Gly | Gly | Arg | Cys | Ser | Gln | Arg | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| Arg | Gly | Asp | Trp | Gly | Gln | Ala | Gly | Ser | His | Arg | Leu | Asn | Val | Leu | His | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| Ile | Trp | Gly | Phe | Leu | Ile | Ser | Phe | Pro | Phe | Pro | Pro | Leu | Arg | Trp | Leu | | |
| | 115 | | | | | | 120 | | | | | 125 | | | | | |
| Gly | Arg | Cys | | | | | | | | | | | | | | | |
| | 130 | | | | | | | | | | | | | | | | |

<210> 275
 <211> 168
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 275

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ile | Arg | Gly | Arg | Val | Asp | Arg | Asn | Cys | Gln | Asp | Ile | Asp | Glu | Cys | Val | | |
| 1 | | | | 5 | | | | | 10 | | | | 15 | | | | |
| Thr | Gly | Ile | His | Asn | Cys | Ser | Ile | Asn | Glu | Thr | Cys | Phe | Asn | Ile | Gln | | |
| | | 20 | | | | | | 25 | | | | 30 | | | | | |
| Gly | Gly | Phe | Arg | Cys | Leu | Ala | Phe | Glu | Cys | Pro | Glu | Asn | Tyr | Arg | Arg | | |
| | 35 | | | | | 40 | | | | | 45 | | | | | | |
| Ser | Ala | Ala | Thr | Leu | Gln | Gln | Glu | Lys | Thr | Asp | Thr | Val | Arg | Cys | Ile | | |
| | 50 | | | | 55 | | | | | 60 | | | | | | | |
| Lys | Ser | Cys | Arg | Pro | Asn | Asp | Val | Thr | Cys | Val | Phe | Asp | Pro | Val | His | | |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | | | |
| Thr | Ile | Ser | His | Thr | Val | Ile | Ser | Leu | Pro | Thr | Phe | Arg | Glu | Phe | Thr | | |
| | | | 85 | | | | | 90 | | | | | 95 | | | | |
| Arg | Pro | Glu | Glu | Ile | Ile | Phe | Leu | Arg | Ala | Ile | Thr | Pro | Pro | His | Pro | | |
| | | 100 | | | | | | 105 | | | | | 110 | | | | |
| Ala | Ser | Gln | Ala | Asn | Ile | Ile | Phe | Asp | Ile | Thr | Glu | Gly | Asn | Leu | Arg | | |
| | 115 | | | | | | 120 | | | | 125 | | | | | | |
| Asp | Ser | Phe | Asp | Ile | Ile | Lys | Arg | Tyr | Met | Asp | Gly | Met | Thr | Val | Gly | | |
| | 130 | | | | 135 | | | | | 140 | | | | | | | |
| Val | Val | Arg | Gln | Val | Arg | Pro | Ile | Val | Gly | Pro | Phe | His | Ala | Val | Leu | | |
| 145 | | | | 150 | | | | | 155 | | | | | | 160 | | |
| Lys | Leu | Glu | Met | Asn | Tyr | Val | Val | | | | | | | | | | |
| | | | | 165 | | | | | | | | | | | | | |

<210> 276
 <211> 145
 <212> PRT
 <213> Pseudomonas aeruginosa

<400> 276

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ile | Arg | Gly | Arg | Val | Asp | Thr | Leu | Gln | Ser | Asn | Ala | Pro | Ser | Ser | Met | | |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | | | |
| Met | Val | Lys | Asp | Glu | Tyr | Val | His | Asp | Phe | Glu | Gly | Gln | Pro | Ser | Leu | | |
| | | 20 | | | | | | 25 | | | | 30 | | | | | |
| Ser | Thr | Glu | Gly | His | Ser | Ile | Gln | Thr | Ile | Gln | His | Pro | Pro | Ser | Asn | | |
| | 35 | | | | | | 40 | | | | | 45 | | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Ala | Ser | Thr | Glu | Thr | Tyr | Ser | Thr | Pro | Ala | Leu | Leu | Ala | Pro | Ser |
| 50 | | | | | | 55 | | | | | 60 | | | | |
| Glu | Ser | Asn | Ala | Thr | Ser | Thr | Ala | Asn | Phe | Pro | Asn | Ile | Pro | Val | Ala |
| 65 | | | | | | 70 | | | | 75 | | | | | 80 |
| Ser | Thr | Ser | Gln | Pro | Ala | Ser | Ile | Leu | Gly | Gly | Ser | His | Ser | Glu | Gly |
| | | | | | | 85 | | | | 90 | | | | | 95 |
| Leu | Leu | Gln | Ile | Ala | Ser | Gly | Pro | Gln | Pro | Gly | Gln | Gln | Gln | Asn | Gly |
| | | | | | | 100 | | | | 105 | | | | | 110 |
| Phe | Thr | Gly | Gln | Pro | Ala | Thr | Tyr | His | His | Asn | Ser | Thr | Thr | Thr | Trp |
| | | 115 | | | | | 120 | | | | | | | | 125 |
| Thr | Gly | Ser | Arg | Thr | Ala | Pro | Tyr | Thr | Pro | Asn | Leu | Pro | His | His | Gln |
| | | 130 | | | | | 135 | | | | | 140 | | | |
| Lys | | | | | | | | | | | | | | | |
| 145 | | | | | | | | | | | | | | | |

<210> 277
 <211> 139
 <212> PRT
 <213> Pseudomonas aeruginosa

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Arg | Gly | Arg | Val | Asp | Arg | Arg | Pro | Arg | Ser | Gly | Gly | Leu | Arg | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Gly | Val | Glu | Ala | Phe | Ala | Pro | Gly | Leu | Arg | Ser | Val | Ala | Pro | Gly |
| | | | | 20 | | | | 25 | | | | | 30 | | |
| Pro | Glu | Pro | Leu | Lys | Gln | Glu | Glu | Gly | Arg | Arg | Glu | Trp | Gly | Ser | Ser |
| | | | | 35 | | | 40 | | | | | 45 | | | |
| Ile | Gly | Thr | Pro | Ser | Pro | Cys | Gly | Ser | Ala | Gln | Ala | Ala | Ala | Ala | Glu |
| | | | | 50 | | 55 | | | | | 60 | | | | |
| Glu | Ala | Thr | Glu | Lys | Met | Pro | Ala | Leu | Arg | Pro | Ala | Leu | Leu | Trp | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Leu | Leu | Ala | Leu | Trp | Leu | Cys | Cys | Ala | Thr | Pro | Ala | His | Ala | Gln | Cys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Arg | Asp | Gly | Tyr | Glu | Pro | Cys | Val | Asn | Glu | Gly | Met | Cys | Val | Thr | Tyr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| His | Asn | Gly | Thr | Gly | Tyr | Cys | Lys | Cys | Pro | Gly | Phe | Leu | Gly | Glu | Tyr |
| | | 115 | | | | | 120 | | | | | | 125 | | |
| Cys | Gln | His | Arg | Pro | Cys | Glu | Lys | Asn | Arg | Cys | | | | | |
| | | 130 | | | | | 135 | | | | | | | | |

<210> 278
 <211> 953
 <212> PRT
 <213> Pseudomonas aeruginosa

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ile | Asn | Ser | His | Leu | Leu | Tyr | Arg | Leu | Ser | Tyr | Arg | Gly | Thr | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Phe | Gln | Pro | Trp | Thr | Leu | Pro | Val | Leu | Leu | Asp | Ser | Arg | Leu | Arg |
| | | | | 20 | | | | 25 | | | | | 30 | | |
| Gly | Ala | Pro | Phe | Tyr | Gly | Cys | Ala | Arg | Ala | Cys | Gln | Pro | Ser | Asp | Pro |
| | | | | 35 | | | 40 | | | | | 45 | | | |
| Lys | Ser | Phe | Ser | Ser | Phe | Ser | Thr | Ser | Asp | Lys | Thr | Ala | Leu | Pro | Leu |
| | | | | 50 | | 55 | | | | | 60 | | | | |
| His | Ala | Ala | Ala | Leu | Ser | Arg | Leu | Pro | Asp | Ala | His | Glu | Lys | Ala | Pro |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Pro | Lys | Arg | Gly | Phe | Pro | Cys | Pro | Pro | Pro | Lys | Arg | Ser | Gly | Glu | Asp |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | 85 | | | | | 90 | | | | 95 | | | |
| Asp | Leu | Val | Ala | Phe | His | Leu | Arg | Arg | Asp | Thr | Gly | Thr | Arg | Arg | Glu | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Phe | Ala | Gly | Gln | Asp | Gln | Leu | Arg | Gln | Arg | Val | Leu | Asp | Pro | Ala | Leu | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Asp | Glv | Pro | Leu | Gln | Arg | Ala | Cys | Ala | Ile | Asp | Arg | Val | Glu | Ala | Asp | |
| | 130 | | | | | 135 | | | | 140 | | | | | | |
| Gly | Asn | Gln | Leu | Val | Gln | Arg | Leu | Leu | Ala | Gln | Phe | Gln | Ala | Gln | Leu | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Ala | Leu | Gly | Gln | Ala | Leu | Ala | Gln | Ala | Thr | Glu | Leu | Asp | Leu | Gly | Asp | |
| | | | 165 | | | | | | 170 | | | | | 175 | | |
| Ala | Gly | Asp | Leu | Leu | Ala | Ser | Gln | Arg | Leu | Glu | His | His | His | Phe | Val | |
| | | 180 | | | | | | 185 | | | | | 190 | | | |
| Asp | Pro | Val | Asp | Glu | Phe | Arg | Thr | Glu | Val | Arg | Ile | Asp | Arg | Val | His | |
| | 195 | | | | | | 200 | | | | | 205 | | | | |
| His | Cys | Gly | Thr | Leu | Arg | Leu | Ala | Val | Ala | Gly | Gln | Leu | Leu | Asp | Leu | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Arg | Arg | Thr | Glu | Val | Gly | Gly | His | His | His | His | Gly | Val | Ala | Glu | Val | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| His | Arg | Thr | Pro | Val | Thr | Val | Gly | Gln | Ala | Ser | Val | Leu | Glu | His | Leu | |
| | | | 245 | | | | | | 250 | | | | | 255 | | |
| Glu | Glu | Asn | Val | Glu | Tyr | Ile | Arg | Met | Gly | Leu | Leu | His | Leu | Val | Gln | |
| | | 260 | | | | | | 265 | | | | | 270 | | | |
| Gln | His | His | Arg | Val | Gly | Leu | Ala | Ala | Asp | Arg | Leu | Gly | Gln | Val | Ala | |
| | 275 | | | | | | 280 | | | | | 285 | | | | |
| Ala | Phe | Leu | Glu | Ala | Asp | Val | Ala | Arg | Arg | Arg | Ala | Asp | Gln | Ala | Gly | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| His | Arg | Val | Phe | Leu | His | Glu | Leu | Gly | His | Ile | Tyr | Pro | His | Gln | Arg | |
| 305 | | | | | 310 | | | | 315 | | | | | | 320 | |
| Leu | Leu | Gly | Ile | Glu | Glu | Glu | Leu | Gly | Gln | Arg | Leu | Ala | Gln | Leu | Gly | |
| | | | 325 | | | | | 330 | | | | | | 335 | | |
| Leu | Ala | His | Pro | Gly | Arg | Ala | Glu | Glu | Glu | Glu | Arg | Ala | Ala | Arg | Pro | |
| | | 340 | | | | | 345 | | | | | | 350 | | | |
| Val | Arg | Ile | Gly | Glu | Ala | Gly | Ala | Arg | Thr | Ala | His | Gly | Val | Gly | His | |
| | 355 | | | | | | 360 | | | | | 365 | | | | |
| Gly | Asp | Tyr | Arg | Leu | Val | Leu | Ala | Asp | His | Ser | Pro | Met | Gln | Leu | Leu | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Leu | His | Ala | Gln | Gln | Leu | Leu | Ala | Leu | Ala | Leu | Glu | His | Leu | Arg | His | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| Arg | Asp | Thr | Gly | Pro | Leu | Gly | Asn | His | Phe | Gly | Asp | Phe | Leu | Val | Gly | |
| | | | 405 | | | | | | 410 | | | | | 415 | | |
| His | Leu | Val | Ala | Gln | Gln | Leu | Val | Leu | Gly | Leu | Ala | Val | Leu | Val | Asp | |
| | | 420 | | | | | | 425 | | | | | 430 | | | |
| His | Leu | Gln | Ala | Ala | Phe | Gln | Val | Arg | Asp | Gly | Leu | Val | Leu | Asp | Ala | |
| | 435 | | | | | | 440 | | | | | 445 | | | | |
| Arg | His | Ala | Leu | Glu | Val | Ala | Leu | Ala | Pro | Arg | Arg | Leu | His | Leu | Leu | |
| | 450 | | | | | 455 | | | | | 460 | | | | | |
| Leu | Gly | Leu | Leu | Asp | Leu | Leu | Leu | Asp | Leu | Arg | Arg | Ala | Leu | His | Leu | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | |
| Gly | Leu | Leu | Gly | Leu | Pro | Asp | Leu | Leu | Glu | Val | Gly | Val | Phe | Ala | Leu | |
| | | | 485 | | | | | | 490 | | | | | 495 | | |
| Glu | Leu | Asp | Asp | Ile | Leu | Leu | Gln | Leu | Gly | Gln | Ala | Leu | Pro | Gly | Gly | |
| | | 500 | | | | | | 505 | | | | | 510 | | | |
| Phe | Val | Val | Phe | Leu | Leu | Gln | Arg | Leu | Ala | Leu | Asp | Leu | Gln | Leu | Asp | |
| | 515 | | | | | | 520 | | | | | 525 | | | | |
| Gln | Ala | Thr | Val | Glu | Thr | Ile | Gln | Phe | Leu | Arg | Leu | Gly | Val | Asp | Leu | |
| | 530 | | | | | 535 | | | | | 540 | | | | | |
| His | Ala | Asp | Ala | Ala | Gly | Gly | Leu | Val | Asp | Gln | Val | Asp | Gly | Leu | Val | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Gln | Leu | Pro | Ile | Gly | Asp | Val | Ala | Val | Arg | Gln | Leu | Gly | Arg | Gly |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Asp | Asp | Arg | Ala | Val | Gly | Asp | Ala | His | Pro | Val | Val | His | Phe | Ile | Ala |
| | | | 580 | | | | 585 | | | | | | 590 | | |
| Phe | Leu | Glu | Ala | Thr | Glu | Asp | Gly | Asp | Gly | Val | Phe | Leu | Ala | Arg | Phe |
| | | 595 | | | | | 600 | | | | | 605 | | | |
| Val | His | Gln | His | Leu | Leu | Glu | Ala | Ala | Leu | Gln | Arg | Gly | Ile | Leu | Leu |
| | 610 | | | | | 615 | | | | 620 | | | | | |
| Asp | Val | Leu | Ala | Ile | Leu | Val | Glu | Gly | Ser | Ser | Thr | Asp | Ala | Val | Gln |
| 625 | | | | | 630 | | | | 635 | | | | | | 640 |
| Leu | Ala | Ala | Arg | Gln | Ser | Arg | Leu | Glu | His | Val | Ala | Gly | Val | His | Gly |
| | | | 645 | | | | | | 650 | | | | | 655 | |
| Thr | Phe | Arg | Leu | Ala | Gly | Ala | Asp | His | Gly | Val | Gln | Phe | Val | Asp | Glu |
| | | | 660 | | | | 665 | | | | | | 670 | | |
| Gln | Asp | Asp | Pro | Ala | Phe | Leu | Leu | Ala | Gln | Phe | Val | Glu | Asp | Arg | Leu |
| | | 675 | | | | | 680 | | | | | | 685 | | |
| Gln | Ala | Phe | Leu | Glu | Leu | Ala | Glu | Leu | Gly | Thr | Gly | Asp | Gln | Arg | |
| | 690 | | | | | 695 | | | | 700 | | | | | |
| Pro | His | Val | Gln | Gly | Gln | Gln | Ala | Leu | Val | Leu | Glu | Ala | Val | Arg | His |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 |
| Phe | Ala | Val | Asp | Asp | Ala | Leu | Gly | Gln | Ala | Leu | Asp | Asp | Gly | Gly | Leu |
| | | | 725 | | | | | | 730 | | | | | 735 | |
| Ala | Asp | Ala | Gly | Phe | Ala | Asp | Gln | His | Arg | Val | Val | Leu | Gly | Pro | Pro |
| | | | 740 | | | | | 745 | | | | | 750 | | |
| Leu | Gln | Asp | Leu | Asp | Gly | Pro | Ala | Asp | Leu | Val | Val | Ala | Thr | Asp | His |
| | | 755 | | | | | 760 | | | | | 765 | | | |
| Arg | Val | Glu | Leu | Ala | Phe | Leu | Gly | Ala | Leu | Gly | His | Val | Asp | Gly | Val |
| | 770 | | | | | 775 | | | | | 780 | | | | |
| Leu | Val | Gln | Arg | Leu | Ala | Arg | Leu | Leu | Asp | Val | Arg | Val | Val | His | Arg |
| 785 | | | | | 790 | | | | | 795 | | | | | 800 |
| Phe | Ala | Ala | Thr | Gln | Val | Gly | His | Gly | Ile | Leu | Gln | Arg | Leu | Ala | Arg |
| | | | 805 | | | | | | 810 | | | | | 815 | |
| His | Ala | Leu | Ala | Glu | Gln | Gln | Leu | Ala | Glu | Pro | Gly | Val | Leu | Val | His |
| | | | 820 | | | | | 825 | | | | | 830 | | |
| Arg | Gly | Gln | Gln | Tyr | Gln | Leu | Ala | Gly | Asp | Glu | Leu | Val | Ala | Leu | Leu |
| | | 835 | | | | | 840 | | | | | 845 | | | |
| Leu | Gly | Gln | Ala | Val | Ser | Leu | Val | Glu | Gln | Ala | Cys | Glu | Ile | Leu | Gly |
| | 850 | | | | | 855 | | | | | 860 | | | | |
| Gln | Val | His | Val | Ala | Gly | Arg | Ala | Leu | Asp | Leu | Arg | Gln | Arg | Val | Glu |
| 865 | | | | | 870 | | | | | 875 | | | | | 880 |
| Phe | Phe | Val | Glu | Ala | Ala | Ala | Gln | Gly | Gly | Asp | Ile | Glu | Ala | Asp | Leu |
| | | | 885 | | | | | | 890 | | | | | 895 | |
| His | Gln | Gln | Gly | Leu | Asp | Arg | Thr | Ala | Leu | Leu | Leu | Glu | Gln | Gly | Gly |
| | | | 900 | | | | | 905 | | | | | 910 | | |
| Lys | Gln | Val | His | Arg | Leu | Asp | Gly | Arg | Met | Val | Met | Ala | Asn | Gly | Gln |
| | | 915 | | | | | 920 | | | | | 925 | | | |
| Gly | Leu | Gly | Val | Gly | Glu | Arg | Gln | Leu | Gln | Leu | Ala | Gly | Gln | Thr | Val |
| | 930 | | | | | 935 | | | | | 940 | | | | |
| Tyr | Ser | His | Gly | Ser | Ser | Phe | Leu | Leu | | | | | | | |
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<212> PRT

<213> Pseudomonas aeruginosa

<400> 279

Met Arg Ile Asp Arg Leu Thr Ser Lys Leu Gln Leu Ala Leu Ser Asp

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| 1 | | | | 5 | | | | 10 | | | | | 15 | | | |
| Ala | Gln | Ser | Leu | Ala | Val | Gly | His | Asp | His | Pro | Ala | Ile | Glu | Pro | Val | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| His | Leu | Leu | Ser | Ala | Leu | Leu | Glu | Gln | Gln | Gly | Gly | Ser | Ile | Lys | Pro | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Leu | Leu | Met | Gln | Val | Gly | Phe | Asp | Ile | Ala | Ala | Leu | Arg | Ser | Gly | Leu | |
| | 50 | | | | 55 | | | | | | 60 | | | | | |
| Asn | Lys | Glu | Leu | Asp | Ala | Leu | Pro | Lys | Ile | Gln | Ser | Pro | Thr | Gly | Asp | |
| 65 | | | | 70 | | | | | | 75 | | | | | 80 | |
| Val | Asn | Leu | Ser | Gln | Asp | Leu | Ala | Arg | Leu | Leu | Asn | Gln | Ala | Asp | Arg | |
| | | | 85 | | | | | | 90 | | | | | 95 | | |
| Leu | Ala | Gln | Gln | Lys | Gly | Asp | Gln | Phe | Ile | Ser | Ser | Glu | Leu | Val | Leu | |
| | | 100 | | | | | 105 | | | | | | 110 | | | |
| Leu | Ala | Ala | Met | Asp | Glu | Asn | Thr | Arg | Leu | Gly | Lys | Leu | Leu | Leu | Gly | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Gln | Gly | Val | Ser | Arg | Lys | Ala | Leu | Glu | Asn | Ala | Val | Ala | Asn | Leu | Arg | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Gly | Gly | Glu | Ala | Val | Asn | Asp | Pro | Asn | Val | Glu | Glu | Ser | Arg | Gln | Ala | |
| 145 | | | | 150 | | | | | | 155 | | | | | 160 | |
| Leu | Asp | Lys | Tyr | Thr | Val | Asp | Met | Thr | Lys | Arg | Ala | Glu | Glu | Gly | Lys | |
| | | | 165 | | | | | 170 | | | | | | 175 | | |
| Leu | Asp | Pro | Val | Ile | Gly | Arg | Asp | Asp | Glu | Ile | Arg | Arg | Thr | Ile | Gln | |
| | | 180 | | | | | 185 | | | | | | 190 | | | |
| Val | Leu | Gln | Arg | Arg | Thr | Lys | Asn | Asn | Pro | Val | Leu | Ile | Gly | Glu | Pro | |
| | 195 | | | | | | 200 | | | | | 205 | | | | |
| Gly | Val | Gly | Lys | Thr | Ala | Ile | Val | Glu | Gly | Leu | Ala | Gln | Arg | Ile | Ile | |
| | 210 | | | | 215 | | | | | 220 | | | | | | |
| Asn | Gly | Glu | Val | Pro | Asp | Gly | Leu | Lys | Asp | Lys | Arg | Leu | Leu | Ala | Leu | |
| 225 | | | | 230 | | | | | | 235 | | | | | 240 | |
| Asp | Met | Gly | Ala | Leu | Ile | Ala | Gly | Ala | Lys | Phe | Arg | Gly | Glu | Phe | Glu | |
| | | | 245 | | | | | 250 | | | | | | 255 | | |
| Glu | Arg | Leu | Lys | Ala | Val | Leu | Asn | Glu | Leu | Gly | Lys | Gln | Glu | Gly | Arg | |
| | | 260 | | | | | 265 | | | | | 270 | | | | |
| Val | Ile | Leu | Phe | Ile | Asp | Glu | Leu | His | Thr | Met | Val | Gly | Ala | Gly | Lys | |
| | 275 | | | | | 280 | | | | | | 285 | | | | |
| Ala | Glu | Gly | Ala | Met | Asp | Ala | Gly | Asn | Met | Leu | Lys | Pro | Ala | Leu | Ala | |
| | 290 | | | | 295 | | | | | | 300 | | | | | |
| Arg | Gly | Glu | Leu | His | Cys | Val | Gly | Ala | Thr | Thr | Leu | Asp | Glu | Tyr | Arg | |
| 305 | | | | 310 | | | | | | 315 | | | | | 320 | |
| Gln | Tyr | Ile | Glu | Lys | Asp | Ala | Ala | Leu | Glu | Arg | Arg | Phe | Gln | Lys | Val | |
| | | | 325 | | | | | | 330 | | | | | 335 | | |
| Leu | Val | Asp | Glu | Pro | Ser | Glu | Glu | Asp | Thr | Ile | Ala | Ile | Leu | Arg | Gly | |
| | | 340 | | | | | 345 | | | | | 350 | | | | |
| Leu | Lys | Glu | Arg | Tyr | Glu | Val | His | His | Gly | Val | Ser | Ile | Thr | Asp | Gly | |
| | 355 | | | | | 360 | | | | | | 365 | | | | |
| Ala | Ile | Ile | Ala | Ala | Ala | Lys | Leu | Ser | His | Arg | Tyr | Ile | Thr | Asp | Arg | |
| | 370 | | | | 375 | | | | | | 380 | | | | | |
| Gln | Leu | Pro | Asp | Lys | Ala | Ile | Asp | Leu | Ile | Asp | Glu | Ala | Ala | Ser | Arg | |
| 385 | | | | 390 | | | | | | 395 | | | | | 400 | |
| Ile | Arg | Met | Glu | Ile | Asp | Ser | Lys | Pro | Glu | Glu | Leu | Asp | Arg | Leu | Asp | |
| | | | 405 | | | | | | 410 | | | | | 415 | | |
| Arg | Arg | Leu | Ile | Gln | Leu | Lys | Ile | Glu | Arg | Glu | Ala | Leu | Lys | Lys | Glu | |
| | | 420 | | | | | 425 | | | | | 430 | | | | |
| Asp | Asp | Glu | Ala | Thr | Arg | Lys | Arg | Leu | Ala | Lys | Leu | Glu | Glu | Asp | Ile | |
| | 435 | | | | | 440 | | | | | | 445 | | | | |
| Val | Lys | Leu | Glu | Arg | Glu | Tyr | Ala | Asp | Leu | Glu | Glu | Ile | Trp | Lys | Ser | |
| | 450 | | | | 455 | | | | | | 460 | | | | | |
| Glu | Lys | Ala | Glu | Val | Gln | Gly | Ser | Ala | Gln | Ile | Gln | Gln | Lys | Ile | Glu | |
| 465 | | | | 470 | | | | | | 475 | | | | | 480 | |

Gln Ala Lys Gln Glu Met Glu Ala Ala Arg Arg Lys Gly Asp Leu Glu
 485 490 495
 Ser Met Ala Arg Ile Gln Tyr Gln Thr Ile Pro Asp Leu Glu Arg Ser
 500 505 510
 Leu Gln Met Val Asp Gln His Gly Lys Thr Glu Asn Gln Leu Leu Arg
 515 520 525
 Asn Lys Val Thr Asp Glu Glu Ile Ala Glu Val Val Ser Lys Trp Thr
 530 535 540
 Gly Ile Pro Val Ser Lys Met Leu Glu Gly Glu Arg Glu Lys Leu Leu
 545 550 555 560
 Arg Met Glu Gln Glu Leu His Arg Arg Val Ile Gly Gln Asp Glu Ala
 565 570 575
 Val Val Ala Val Ser Asn Ala Val Arg Arg Ser Arg Ala Gly Leu Ala
 580 585 590
 Asp Pro Asn Arg Pro Ser Gly Ser Phe Leu Phe Leu Gly Pro Thr Gly
 595 600 605
 Val Gly Lys Thr Glu Leu Cys Lys Ala Leu Ala Glu Phe Leu Phe Asp
 610 615 620
 Thr Glu Glu Ala Leu Val Arg Ile Asp Met Ser Glu Phe Met Glu Lys
 625 630 635 640
 His Ser Val Ala Arg Leu Ile Gly Ala Pro Pro Gly Tyr Val Gly Phe
 645 650 655
 Glu Glu Gly Gly Tyr Leu Thr Glu Ala Ile Arg Arg Lys Pro Tyr Ser
 660 665 670
 Val Val Leu Leu Asp Glu Val Glu Lys Ala His Pro Asp Val Phe Asn
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 Ile Leu Leu Gln Val Leu Glu Asp Gly Arg Leu Thr Asp Ser His Gly
 690 695 700
 Arg Thr Val Asp Phe Arg Asn Thr Val Val Val Met Thr Ser Asn Leu
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 Gly Ser Ala Gln Ile Gln Glu Leu Ala Gly Asp Arg Glu Ala Gln Arg
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 Ala Glu Arg Glu Leu Ser Leu Glu Leu Ser Gln Glu Ala Leu Asp Lys
 785 790 795 800
 Leu Ile Ala Val Gly Phe Asp Pro Val Tyr Gly Ala Arg Pro Leu Lys
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 Arg Ala Ile Gln Arg Trp Ile Glu Asn Pro Leu Ala Gln Leu Ile Leu
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Gly | Leu | Pro | Asp | Leu | Leu | Glu | Val | Gly | Val | Phe | Ala | Leu | Glu | Leu |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Asp | Asp | Ile | Leu | Leu | Gln | Leu | Gly | Gln | Ala | Leu | Pro | Gly | Gly | Phe | Val |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Val | Phe | Leu | Leu | Gln | Arg | Leu | Ala | Leu | Asp | Leu | Gln | Leu | Asp | Gln | Ala |
| | 530 | | | | | 535 | | | | | 540 | | | | |
| Thr | Val | Glu | Thr | Ile | Gln | Phe | Leu | Arg | Leu | Gly | Val | Asp | Leu | His | Ala |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Asp | Ala | Ala | Gly | Gly | Leu | Val | Asp | Gln | Val | Asp | Gly | Leu | Val | Arg | Gln |
| | | | 565 | | | | | | 570 | | | | | 575 | |
| Leu | Pro | Ile | Gly | Asp | Val | Ala | Val | Arg | Gln | Leu | Gly | Arg | Gly | Asp | Asp |
| | | 580 | | | | | | 585 | | | | | 590 | | |
| Arg | Ala | Val | Gly | Asp | Ala | His | Pro | Val | Val | His | Phe | Ile | Ala | Phe | Leu |
| | 595 | | | | | | 600 | | | | | 605 | | | |
| Glu | Ala | Thr | Glu | Asp | Gly | Asp | Gly | Val | Phe | Leu | Ala | Arg | Phe | Val | His |
| | 610 | | | | 615 | | | | | | 620 | | | | |
| Gln | His | Leu | Leu | Glu | Ala | Ala | Leu | Gln | Arg | Gly | Ile | Leu | Leu | Asp | Val |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 |
| Leu | Ala | Ile | Leu | Val | Glu | Gly | Ser | Ser | Thr | Asp | Ala | Val | Gln | Leu | Ala |
| | | | 645 | | | | | | 650 | | | | | 655 | |
| Ala | Arg | Gln | Ser | Arg | Leu | Glu | His | Val | Ala | Gly | Val | His | Gly | Thr | Phe |
| | | 660 | | | | | | 665 | | | | | 670 | | |
| Arg | Leu | Ala | Gly | Ala | Asp | His | Gly | Val | Gln | Phe | Val | Asp | Glu | Gln | Asp |
| | 675 | | | | | | 680 | | | | | 685 | | | |
| Asp | Pro | Ala | Phe | Leu | Leu | Ala | Gln | Phe | Val | Glu | Asp | Arg | Leu | Gln | Ala |
| | 690 | | | | | 695 | | | | | 700 | | | | |
| Phe | Leu | Glu | Leu | Ala | Ala | Glu | Leu | Gly | Thr | Gly | Asp | Gln | Arg | Pro | His |
| 705 | | | | 710 | | | | | | 715 | | | | | 720 |
| Val | Gln | Gly | Gln | Gln | Ala | Leu | Val | Leu | Glu | Ala | Val | Arg | His | Phe | Ala |
| | | | 725 | | | | | | 730 | | | | | 735 | |
| Val | Asp | Asp | Ala | Leu | Gly | Gln | Ala | Leu | Asp | Asp | Gly | Gly | Leu | Ala | Asp |
| | | 740 | | | | | | 745 | | | | | 750 | | |
| Ala | Gly | Phe | Ala | Asp | Gln | His | Arg | Val | Val | Leu | Gly | Pro | Pro | Leu | Gln |
| | 755 | | | | | | 760 | | | | | 765 | | | |
| Asp | Leu | Asp | Gly | Pro | Ala | Asp | Leu | Val | Val | Ala | Thr | Asp | His | Arg | Val |
| | 770 | | | | | 775 | | | | | 780 | | | | |
| Glu | Leu | Ala | Phe | Leu | Gly | Ala | Leu | Gly | His | Val | Asp | Gly | Val | Leu | Val |
| 785 | | | | 790 | | | | | | 795 | | | | | 800 |
| Gln | Arg | Leu | Ala | Arg | Leu | Leu | Asp | Val | Arg | Val | Val | His | Arg | Phe | Ala |
| | | | 805 | | | | | | 810 | | | | | 815 | |
| Ala | Thr | Gln | Val | Gly | His | Gly | Ile | Leu | Gln | Arg | Leu | Ala | Arg | His | Ala |
| | | 820 | | | | | | 825 | | | | | 830 | | |
| Leu | Ala | Glu | Gln | Gln | Leu | Ala | Glu | Pro | Gly | Val | Leu | Val | His | Arg | Gly |
| | 835 | | | | | | 840 | | | | | 845 | | | |
| Gln | Gln | Tyr | Gln | Leu | Ala | Gly | Asp | Glu | Leu | Val | Ala | Leu | Leu | Leu | Gly |
| | 850 | | | | | 855 | | | | | 860 | | | | |
| Gln | Ala | Val | Ser | Leu | Val | Glu | Gln | Ala | Cys | Glu | Ile | Leu | Gly | Gln | Val |
| 865 | | | | 870 | | | | | | 875 | | | | | 880 |
| His | Val | Ala | Gly | Arg | Ala | Leu | Asp | Leu | Arg | Gln | Arg | Val | Glu | Phe | Phe |
| | | | 885 | | | | | | 890 | | | | | 895 | |
| Val | Glu | Ala | Ala | Ala | Gln | Gly | Gly | Asp | Ile | Glu | Ala | Asp | Leu | His | Gln |
| | | 900 | | | | | | 905 | | | | | 910 | | |
| Gln | Gly | Leu | Asp | Arg | Thr | Ala | Leu | Leu | Leu | Glu | Gln | Gly | Gly | Lys | Gln |
| | 915 | | | | | 920 | | | | | | 925 | | | |
| Val | His | Arg | Leu | Asp | Gly | Arg | Met | Val | Met | Ala | Asn | Gly | Gln | Gly | Leu |
| | 930 | | | | 935 | | | | | | 940 | | | | |
| Gly | Val | Gly | Glu | Arg | Gln | Leu | Gln | Leu | Ala | Gly | Gln | Thr | Val | Tyr | Ser |
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<400> 281

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| ctggattcgc | gtctcagagg | cgcgccattt | tacggatgcg | cgcgggcatg | tcaaccctct | 180 |
| gatccaaaaa | gtttttcttc | tttttccacg | agcgacaaaa | cgcccttcc | actgcatgcg | 240 |
| gcagcgctct | cgcgccctacc | ggacgcccac | gaaaaagccc | cgccgaagcg | gggctttccc | 300 |
| tgtccgcccc | cgaagaggtc | aggcgaagac | gatctcgtcg | ccttccacct | tgcgagat | 360 |
| actggcacc | ggcgcaatt | tgccggccag | gatcagttgc | gccagcggt | tctcgatcca | 420 |
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| gtccatcaact | gcggcacgtt | gcgcctcgcg | gtcgccggcc | agctcctgga | tctgcgccga | 720 |
| accgaggttg | gaggtcatca | ccaccacggt | gttgcggaag | tccaccgtac | gcccgtgact | 780 |
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| cttctccacc | tcgtccagca | gcaccaccga | gtagggcttg | cgcgggatcg | cctcggtcag | 900 |
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| ctgctcgatc | ttctgctgga | tctgcgcga | gcctcgacc | tcggccttct | cggacttcca | 1500 |
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| ctggatcagg | cgacggctga | gacgatccag | ttcttcggc | ttggagtcca | tctccatgcg | 1680 |
| gatgcggctg | gcggcctcgt | cgatcaggtc | gatggccttg | tccggcagtt | gccgatcgg | 1740 |
| gatgtagcgg | tgcgacagct | tgcccgcggc | gatgatcgcg | ccgtcgggtga | tgctcacc | 1800 |
| gtggtgcaact | tcatagcggt | ccttgaggcc | acggaggatg | gcgatggtgt | cttctcgc | 1860 |
| cggttcgctc | accagcacct | tctggaagcg | gcgctccagc | gcggcatcct | tctcgatgta | 1920 |
| ctggcgatac | tcgtcgaggg | tagtagcacc | gacgcagtcg | agctcgccgc | gcgccagagc | 1980 |
| cggcttgagc | atgttgccgg | cgctccatgg | accttcggcc | ttgccggcgc | cgaccatggt | 2040 |
| gtgcagttcg | tcgatgaaca | ggatgaccgg | gccttcctgc | ttgccaggtt | cgttgaggac | 2100 |
| cgccttcagg | cgttcctcga | actcgccggc | gaacttgga | ccggcgatca | gcgcccccat | 2160 |
| gtccagggcc | agcaggcgct | tgtccttgag | gccgtccggc | acttcgccgt | tgatgatgcg | 2220 |
| ctgggcccagg | ccctcgacga | tggggttctt | gccgacgccc | ggttcgccga | tcagcaccgg | 2280 |
| gttggttcttg | gtccgcccgt | gcaggacctg | gatggtccgg | cggatctcgt | cgtcgcgacc | 2340 |
| gatcaccggg | tcgagcttgc | cttctcggc | gcgcttggtc | atgtcgacgg | tgtacttgtc | 2400 |
| cagcgccctg | cgcgactcct | cgacgttcgg | gtcgttcacc | gcttcgccgc | cacgcagggt | 2460 |
| ggccacggca | ttctccagcg | ccttgccgca | cacgccttg | ccgagcagca | gcttgccgag | 2520 |
| cctggtgttc | tcgtccatcg | cggccagcaa | taccagctcg | ctggagatga | actggtcgcc | 2580 |
| cttctgcttg | gcgcagcggt | cagcctggtt | gagcaggcgt | gcgagatcct | gggacagggt | 2640 |
| cacgtcgccg | gtcgggctct | ggatcttcgg | cagcgcgctc | agttctttgt | tgaggccgct | 2700 |
| gcgcagggcg | gcgatatcga | agccgacctg | catcagcagg | ggcttgatcg | aaccgccttg | 2760 |
| ctgctcgagc | agggcgga | gcaggtgcac | cggctcgatg | gccggatggt | catggccaac | 2820 |
| ggccagggac | tgggcgtcgg | agagcgccag | ttgcagcttg | ctggtcaaac | ggtctattcg | 2880 |
| catgggtcgt | ccttccttct | atag | | | | 2904 |

<210> 282
 <211> 309
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 282
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 ttggaccaag gctacagcca tatcgacgcc tgccgttcgc tgggggtggt ggattcggcc 120
 ttgcgccgtt ggggtgaagca gctcgaggcg gagcgccagg gtgtgacccc gaagagcaag 180
 gcgttgacgc ctgagcagca aaagatccag gagctggaag cccggatcaa ccgattggag 240
 cgggagaaaag cgatattaaa aaaggctacc gctctcttga tgtcggacga actcgatcgt 300
 acgcgctga 309

<210> 283
 <211> 1862
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 283
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 gtagaggccg aacgcataga cgctctctgg cggaatgtcc caccacaacc ggggtgcttcc 180
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 cagcgcccg agcgcgtaac caggcgacgg ttgccgaaga cgggaaagcg cagcgagagg 420
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 gcagcgttac ctgcgaccaa ggcagccggg atgccaagaa cgaaccggc tgctccgctg 600
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 ct 1862

<210> 284
 <211> 1462
 <212> DNA
 <213> *Pseudomonas aeruginosa*

<400> 284
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| | | | | | | |
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| cttggcggat | gcgctgcagg | tcagcggcca | ggcgcgggta | gtcgaagtag | aagcgctgtc | 120 |
| cgggctcatc | ggcgccctgg | gcactgcggc | gggcggtgtc | ctcgagggcg | ttgagctgcc | 180 |
| ggatcatcac | ctccagggtc | gcctgctcgg | aggcgctcgc | tgcgaaagct | ccctgtgcga | 240 |
| ccagcgcact | gcaggccaag | acggccaggc | agcttcggcg | aagggatgga | tgtggagtgt | 300 |
| tcacggcgaa | tctcgtgcag | atcaggggtc | gatcagcttg | ccgatcgccc | tgattccatt | 360 |
| ccgcaagaaa | tactcggcgc | gggtccgggg | tattttttta | tgaggttgcg | cgcttgaaaa | 420 |
| acagcaggta | gctgacgggc | agagcgacgc | cccaagccca | gccttggggc | ttttgattac | 480 |
| cgatctcgg | tacgccccgc | atgagtggct | gaacgctcac | cagctcccag | ccttcctggc | 540 |
| ccagacgcac | gacctcggcc | cagcgcagag | ggttgagcaa | ggcgtggtcg | tcggggtcca | 600 |
| aggtgtcttc | tttgtgtttg | aacatcgcg | cgcccttgg | gagggttttg | tagggaatga | 660 |
| cgatgttctc | gacatggtat | tcgaagggct | gttttatgct | catggtgtgc | tcctggatcg | 720 |
| gttcgagtag | aaccgcacgg | tttcaagagc | aggaggagg | cctcaaccga | aaatactagg | 780 |
| cctagcacca | gtgaatttct | ggtggttggc | gggtttagag | acacgtatgg | acgtctgggt | 840 |
| gtatatttca | tatatatttc | taaggagagc | ggctgatgct | tagaaacatc | tctattggag | 900 |
| ttttgctagc | catggctgct | atgttgggca | gttatgggg | ggctgccgct | acattacgat | 960 |
| gcgggtcggc | aattgttagt | gagggcgact | tgattgatga | tgtgcttaga | aagtgcggca | 1020 |
| accctgatag | ccgtaaaatt | gaagggcccg | cagtggatgg | tagtggctat | atagtgcggg | 1080 |
| gggctgctac | tgtcgaaaac | tgggtatatg | gaccaaggaa | tggatgggtac | cagaagctta | 1140 |
| ggtttgtcga | tggaagacta | gttcagataa | aaggcagtat | ggactagggt | atagccgtgg | 1200 |
| atggtgtgtt | ttcatccacg | gctataagtc | tcatccggca | gatgatataa | gggtaaggat | 1260 |
| atttgcgatt | ggtaggcctt | gtgcgtcgg | aataaacacg | gttgtactgg | cgctgcacg | 1320 |
| ggaaaactat | ctgttgtagg | ttgttcggat | tagacatgcc | accgttgtaa | ttggcttgga | 1380 |
| attgcttgct | ggaacttgct | atgtctagaa | gttcaagtag | agtgctttgg | ttggcggatt | 1440 |
| gtgcggagtt | catgctgatt | ga | | | | 1462 |

<210> 285

<211> 830

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 285

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| tccgccggga | tgaacgattg | cctggtcaaa | ccggtggatc | tgaatgccct | tcagaactgc | 60 |
| ttgattaata | ttctcaaggt | ggatcgatga | gctggaaatc | ctatcgggtg | ctggtggtcg | 120 |
| aagatcagcc | gtttcagcgc | gaatacctgc | tcaacctgtt | tcgcgagcgc | ggcgtgcagt | 180 |
| acctggtagg | tgcgggcgac | ggcgcggagg | cgttgcgctg | cctgaagcag | gacaggttcg | 240 |
| acctgatcct | cagcgatctg | atgatgccgg | gcatggatgg | tatccaaatg | atcctgcaac | 300 |
| tgccgtatct | caagcatcgt | ccgaagctgg | cgctgatgag | ctcctcgtcg | cagcggatga | 360 |
| tgctcagtg | cagccgggtc | gccagagtc | tcggcttgct | ggtaatcgac | ctggtgcccc | 420 |
| agccgactct | gcccaaggcc | atcggccaac | ttctggaaca | cctggaaaaga | tgccctcaggc | 480 |
| agaagctgga | gccggaaacc | gacgagactc | cgcatggggc | cacggcggtg | ctggatgccc | 540 |
| tgcataacga | gcaactggtg | acctggttcc | aggctaagaa | atccctccac | accgggcgca | 600 |
| tagtcggcgc | cgaggcggtg | atacgttgg | gccaccgcga | gcatggcctg | ttgctgcccc | 660 |
| gctgtttcat | gagtgatgtc | gacgctaccg | gtctgcacga | ggcgttgctc | tggcgcgtgc | 720 |
| tcgaacagac | cctgaacgcc | caggaatcgt | ggcgcagggc | gggttacgag | attccggttt | 780 |
| cggtgaatct | gccgccgcac | ctgctcgata | accaggaact | tccggatcga | | 830 |

<210> 286

<211> 987

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 286

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| tcgtattttt | gtatggctcg | cgtagcactt | acttttagtga | tacatgctta | cccatgaact | 60 |
| gtattccgtt | agataaggag | ctgactttta | gtgagttctt | gtagccatag | aactcccaa | 120 |
| gaccatcccc | gtcgggaatt | tcagtgattc | catttgcaat | gaccgatagg | ccgcctaaac | 180 |
| ctagaagctt | gggagcatag | ggaactgctc | catctgaaac | ataaagggtg | ggtgagcgat | 240 |
| ggtctctatc | ttgcttccaa | gaaaagtacg | agtgtataac | tcctgctagt | acctcgctag | 300 |
| ccggatcatt | cctggagaag | agtacgacat | acggcccgca | tcgactctca | tgctcacatg | 360 |
| aatgacctgt | gtggaactgt | cgattctcta | atTTTTTTat | gagataaagt | aaggtttctt | 420 |

| | | | | | | |
|-------------|------------|------------|-------------|-------------|------------|-----|
| ctgagctttt | ttcgagagga | ggtcggcgta | tatcaacttt | agatatttcg | ccagaggagg | 480 |
| atggctgcat | ccataaggga | gggtatgctc | ctgaaatgag | ttgatagatc | gctgacttta | 540 |
| tggagaggaa | ggggacgcaa | gggaagtgg | aggagccaaa | tacttgatta | cgagactttg | 600 |
| catgctcata | tgcactgatc | tctaagttag | ttgaccatcc | tttattacgt | atttcctctt | 660 |
| ggatgtcgtt | tggcaataaa | ctgacaattg | actcgatcca | gcaacgagcc | tcggtactaa | 720 |
| gcgaaacggg | aaggtttcgg | tctcgcaagt | caagaaatcg | aaatttatatt | agagtttctt | 780 |
| cgacttctaa | tttttctatt | gcgtcgaata | tatgggttgt | ttggattgag | gtctcttttg | 840 |
| tttcgatgag | gattagtcgg | ggtagtttct | taaagctcat | ttgctcaaga | aaaaggacta | 900 |
| aggctggaag | tatagagtgc | tttgggtttc | cagtaaaaaac | gacggggcca | ttctcggtat | 960 |
| attcaaggctc | taaacaatat | agcgctt | | | | 987 |

<210> 287

<211> 987

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 287

| | | | | | | |
|-------------|------------|------------|-------------|-------------|------------|-----|
| tcgtattttt | gtatggctcg | cgtagcactt | acttttagtga | tacatgctta | cccatgaact | 60 |
| gtattccgtt | agataaggag | ctgactttaa | gtgagttctt | gtagccatag | aactcccaa | 120 |
| gaccatcccc | gtcgggaatt | tcagtgattc | catttgcaat | gaccgtatgg | ccgcctaaac | 180 |
| ctagaagctt | gggagcatag | ggaactgctc | catctgaaac | ataaagggtg | ggtgagcgat | 240 |
| ggtctctatc | ttgcttccaa | gaaaagtacg | agtgtataac | tcctgctagt | acctcgctag | 300 |
| ccggatcatt | cctggagaag | agtacgacat | acggccgcca | tcgactctca | tgctcacatg | 360 |
| aaatgcctgt | gtggaactgt | cgattctcta | atttttttat | gagataaagt | aaggtttcct | 420 |
| ctgagctttt | ttcgagagga | ggtcggcgta | tatcaacttt | agatatttcg | ccagaggagg | 480 |
| atggctgcat | ccataaggga | gggtatgctc | ctgaaatgag | ttgatagatc | gctgacttta | 540 |
| tggagaggaa | ggggacgcaa | gggaagtgg | aggagccaaa | tacttgatta | cgagactttg | 600 |
| catgctcata | tgcactgatc | tctaagttag | ttgaccatcc | tttattacgt | atttcctctt | 660 |
| ggatgtcgtt | tggcaataaa | ctgacaattg | actcgatcca | gcaacgagcc | tcggtactaa | 720 |
| gcgaaacggg | aaggtttcgg | tctcgcaagt | caagaaatcg | aaatttatatt | agagtttctt | 780 |
| cgacttctaa | tttttctatt | gcgtcgaata | tatgggttgt | ttggattgag | gtctcttttg | 840 |
| tttcgatgag | gattagtcgg | ggtagtttct | taaagctcat | ttgctcaaga | aaaaggacta | 900 |
| aggctggaag | tatagagtgc | tttgggtttc | cagtaaaaaac | gacggggcca | ttctcggtat | 960 |
| attcaaggctc | taaacaatat | agcgctt | | | | 987 |

<210> 288

<211> 1118

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 288

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|------|
| ctgcctcagc | cagggcaaca | ccctcaccgg | cgcaggggtc | acagatcctc | atccttcccg | 60 |
| acggggcaag | agtgaaggcc | tgcagagcgc | gttcgagggg | gacctcatcg | gtaggggaagt | 120 |
| agccgttgcg | tgcaaagtgg | cgcgccaaag | gcgggaacat | gagggccatg | gggcctcctt | 180 |
| gagtctgaga | gggatggctc | aggcttgctc | ctgagcatcg | gtggtaagaa | tgctttcgcg | 240 |
| gattacctca | ccgagggtgg | gctcaagcac | gtcgaccgcg | agggcgagtc | gccaggcgca | 300 |
| gacgttgccg | atcgctcccg | gtagggccgt | caacatctgg | tgctgggtga | gaacctccat | 360 |
| caccggctcg | cgccagtgtc | gcaggagggg | gagcggacag | gtttccatca | ccagcggcca | 420 |
| gagcctctgg | tgtggatcct | catcgcgctg | caggagtgcg | aaggcgaggt | gattgcctcg | 480 |
| gtcgggcgcg | gagcgcgccc | gatcgaacag | caaagattg | agcaggctgc | cgaacaacgt | 540 |
| gcccgcgaac | tgacgggtgg | tgcgtttctc | caggagatcc | tggtttggga | agacaggtaa | 600 |
| gcggcgcccg | tccacgatga | tgtggaaatg | gtcgatgcca | ttttcttccc | ggcccagcgt | 660 |
| cagcctggcc | aggaactctt | gtgtcacggg | gtcgcggccc | caggccgaaa | gaaagaccag | 720 |
| gttgactgct | tcgtcgcaca | cgcaggcgct | gacgtacagg | tctggacact | cttcgatctg | 780 |
| gtagagcggg | gtgggactgg | gcataggaac | ctcctggaag | gaggagccac | gccgccctca | 840 |
| aggggcggtg | aagcccctcg | gggtgtagtc | caactgggtc | aggggagcgt | ggtggctacc | 900 |
| gaacgtctt | ggtgtgaggg | tcgaagctga | gtccatcggc | ttggtgcagc | ggcccttggc | 960 |
| cgatcaggaa | gacctggcag | aggtactgat | cgcgtagcgc | gacagccgct | tccgcctgct | 1020 |
| ccaaggtcag | cgacagctcc | tcgatgaaca | agtcgatgag | ctcgtcgtcg | ccggcgacgt | 1080 |

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1118

<210> 289

<211> 2427

<212> DNA

<213> *Pseudomonas aeruginosa*

<400> 289

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<210> 290

<211> 1185

<212> DNA

<213> *Pseudomonas aeruginosa*

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